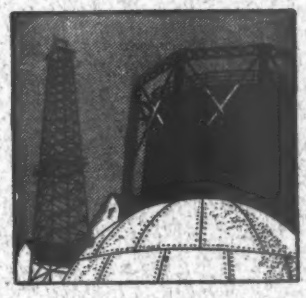
A. G. A. Convention Opens Oct. 13 at Atlantic City

# AMERICAN GAS ASSOCIATION MONTHLY



Convention Entertainment
A. H. THORN

Last Mortgage on A. G. A. Laboratory is Burned

German "Zep" Uses American Gas for Long Flights
A. S. TAYLOR

Tentative Convention Program

No Let Up in A. G. A. Activities
ALEXANDER FORWARD

A. G. A. Employee-Customer Relations Course Ready

Revised Fire Insurance Rates for Manufactured Gas Properties

*September, 1930*

# Let's Roll Up Our Sleeves

**And jump into the job of selling more gas for every household purpose during the winter of 1930-31 than we've ever sold before.**

# Here Are Some A. G. A. Helps

**For newspaper advertising campaigns appealing to every desire for comfort, cleanliness, heating and cooking efficiency, etc., we offer**

**A. G. A. ART AND COPY SERVICE (Monthly)**

For the direct mail appeal—and each gas company has the best mailing list of prospective buyers on its customer ledger—we offer

**HOUSEHOLD HINTS,** a booklet of suggestions to housewives on economies and efficiences of gas usage

**HEALTH, HAPPINESS AND HOT WATER,** a handsome booklet featuring the advantages and joys of instant hot water service

**SERVANTS OF LEISURE,** depicting the comforts of the all-gas home

For the woman's pages of your local paper, for your company house organ, and for the guidance of home service departments

**THE HOUSEHOLD INFORMATION SERVICE (Monthly)**

For those who have coke to sell before competitive fuels fill the bins for winter

**A. G. A. COKE ADVERTISING SERVICE (20 Series Campaign)**

**For further information write**

**AMERICAN GAS ASSOCIATION**

**420 Lexington Avenue**

**NEW YORK, N. Y.**

# AMERICAN GAS ASSOCIATION MONTHLY

Allyn B. Tunis, Editor





VOLUME XII — SEPTEMBER, 1930 — NUMBER 9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Published Monthly by the

AMERICAN GAS ASSOCIATION

Publication Office, American Building, Brattleboro, Vt.
Editorial Offices, 420 Lexington Ave., New York, N. Y.

Entered as Second Class Matter at the Post Office at Brattleboro, Vermont, February 10th, 1922, under the Act of March 3, 1879.

**Subscription Rate . . . . . $3.00 a Year**

# OUR OWN WHO'S WHO

LXIV

## John B. Corrin

JOHN BAIN CORRIN was born in Franklin, Pennsylvania, in 1870, and was educated in the grade and high schools there. In 1890, he entered the employ of the South Penn Oil Company, Oil City Pa., and in 1902, removed to Pittsburgh, to become assistant secretary-treasurer of the Hope Natural Gas Company, a subsidiary of the Standard Oil Company (N. J.) and, shortly thereafter, became assistant secretary-treasurer of the Reserve Gas Company and The Connecting Gas Company, also. In 1906 he became assistant superintendent of these three companies. Afterward he was made director and assistant general manager of the Hope Natural Gas Company, retaining the position of assistant superintendent for the other two companies, and later, became vice-president and assistant general manager of the Hope Natural Gas Company and Connecting Gas Company, and general manager of the Reserve Gas Company and The River Gas Company. .In 1925 he succeeded the late T. O. Sullivan as vice-president and general manager of Hope Natural Gas Company and Hope Construction & Refining Company, retaining his other positions, and is so occupied today. In 1924 Mr. Corrin served as president of the Natural Gas Association of America. He is a director of the Peoples-Pittsburgh Trust Company, and Terminal Trust Company, both of Pittsburgh.

# AMERICAN GAS ASSOCIATION MONTHLY

VOLUME XII | SEPTEMBER, 1930 | NUMBER 9


# A. G. A. Convention Opens October 13 at Atlantic City

WITH discussions centered upon the enlargement of gas service to the public through sales and research, and through development of industrial and domestic appliances, and upon the efficient and scientific use of natural resources, the program of the Twelfth Annual Convention and Exhibition of the American Gas Association is nearing completion. Addresses scheduled will present problems of the industry, viewed from within and from without by those fully equipped to speak authoritatively and constructively.

*Bernard J. Mullaney*
*President*

The convention will get under way on Monday, October 13, in the big Municipal Auditorium at Atlantic City, N. J., and will continue through Friday, October 17.

As in the past, the Convention will begin with the formal opening of the exhibit to be presented by the manufacturers of gas appliances, which will be staged on the first floor of the Auditorium. More exhibitors will occupy greater floor space than ever before, so that those coming to see the latest developments in the appliance field may plan their trip to Atlantic City with the assurance that they will be able to view the most complete display in the history of the industry in America.

*C. E. Paige*
*Vice-President*

*Wm. J. Welsh*
*Treasurer*

While Atlantic City's hotel facilities are more than ample to house the A. G. A. membership, it should be remembered by those who will attend that no one hotel has sufficient rooms to take care of more than a small proportion of those who will be there. Therefore, Association Headquarters has advised all members to make their reservations early. Circulars giving all details concerning hotel arrangements were distributed to the membership in July.

Usual reduced railroad fares will be in effect again this year for the benefit of members and dependent members of their families. All members soon will be advised in detail concerning these transportation arrangements.

As customary, The Peoples Gas Light and Coke Company, of Chicago, Ill., will cooperate with the Pennsylvania Railroad in providing a special con-

*Alexander Forward*
*Managing Director*

vention train from Chicago to Atlantic City. The special will leave Chicago on Sunday, October 12, at 1:45 p.m., and arrive at Atlantic City on Monday, October 13, at 11:05 a.m.

This train is expected to prove especially popular with delegates from the Middle and Far West.

Inquiries and applications for reservations should be addressed to A. H. Thorn, The Peoples Gas Light and Coke Company, 1819 Peoples Gas Building, Chicago, Illinois.

As last year, all general sessions will take place in the Auditorium ballroom, while sectional meetings have been assigned rooms in the same building.

Following is the tentative schedule of business meetings arranged by days for Convention Week:

MONDAY

| | |
|---|---|
| 9:00 a.m. | EXHIBITION OPENS |
| 10:30 a.m. | Accounting Section meeting |
| 2:00 p.m. | Natural Gas Department meeting |
| 2:00 p.m. | Manufacturers Section meeting |

TUESDAY

| | |
|---|---|
| 10:00 a.m. | General Session |
| 2:00 p.m. | Accounting Section meeting |
| 2:00 p.m. | Publicity and Advertising Section meeting |
| 2:30 p.m. | Commercial Section meeting |
| 3:00 p.m. | Technical Section meeting |

WEDNESDAY

| | |
|---|---|
| 10:00 a.m. | General Session |
| 2:00 p.m. | Industrial Section meeting |
| 2:30 p.m. | Commercial Section meeting |
| 3:00 p.m. | Technical Section meeting |

THURSDAY

| | |
|---|---|
| 10:00 a.m. | General Session |
| 2:00 p.m. | Accounting Section meeting |
| 2:00 p.m. | Industrial Section meeting |
| 3:00 p.m. | Technical Section meeting |

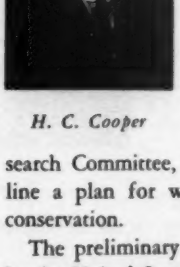
General sessions will bring before the delegates speakers of national and international importance in gas and other industrial fields. Following established custom, the general sessions will be opened by the president of the American Gas Association, B. J. Mullaney, followed by the report of the treasurer, William J. Welsh, and address by the managing director, Alexander Forward. Clifford E. Paige, vice-president, is another association executive who will be heard.

Among the problems to be discussed in general sessions are the construction of proper rate forms to stimulate business, a study of the economies of competitive fuels, why it is the duty of the industry to play an important part in the conservation of natural resources, cooperation with other agencies in the development of the business, evaluation of the interest of the woman consumer, and the opportunities which await the gas business in the field of industry and of heating and cooling the buildings of the country.

Experts of the industry will tell what they think about this future, and the critic from outside our ranks will present his views on what we are doing or not doing, and the way we are doing or not doing it.

*Mayor Bacharach*

Delegates will be welcomed to Atlantic City by Mayor Harry Bacharach. His greetings will come as a coincidence. In 1916, when Mayor Bacharach was serving as Atlantic City's chief executive, he delivered the address of welcome at the twelfth annual meeting of the National Commercial Gas Association; this year he will welcome the twelfth A. G. A. meeting.



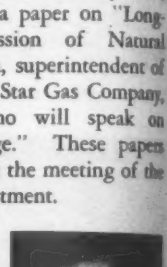
*H. C. Cooper*

Natural Gas will have a conspicuous part in the Convention program. H. C. Cooper, of the Hope Natural Gas Company, Pittsburgh, Pa., in submitting the report of the Main Technical and Research Committee, is expected to outline a plan for work in natural gas conservation.

The preliminary assembling of data by the United States Bureau of Mines, is now in progress. This step is in keeping with a resolution adopted at the convention of the Natural Gas Department of last May.

*R. W. Hendee*

Others who will discuss features of the natural gas industry include R. W. Hendee, vice-president of the Oklahoma Natural Gas Corporation, Tulsa, Okla., who will deliver an address on "Natural Gas Fields"; F. C. Brown, vice-president of Continental Construction Company, Kansas City, Mo., who has prepared a paper on "Long-Distance Transmission of Natural Gas"; J. A. Martin, superintendent of transmission, Lone Star Gas Company, Dallas, Texas, who will speak on "Pipe Line Leakage." These papers will be presented at the meeting of the Natural Gas Department.



*F. B. Flahive*

In other sectional meetings there also will be papers having a direct bearing on subjects of interest to the natural gas industry. These include a paper on "Some Natural Gas Accounting Problems," to be discussed by F. B. Flahive, of the Columbia Gas and Electric Corporation, New York, N. Y., which will be delivered before the Accounting Section. R. E. Fisher, vice-president of the Pacific Gas & Electric Co., San Francisco, Calif., will read a paper on "Developing Natural Gas Sales," before the Commercial Section. J. H. Gumz, industrial gas engineer of the Pacific Gas & Electric Company, will discuss "Problems of Sales and Service Encountered in Change-Over from Manufactured to Natural Gas." at a meeting of the Industrial Section.

Before the Publicity and Advertising Section, F. R. Jamison, of the Public Service Company of Colorado, Denver, Colo., will speak on "How Change-Over from Manufactured to Natural Gas Has Affected Company Advertising and Publicity."

These various papers will be pre-

sented at hours so arranged that there will be practically no conflict—any one wishing to hear all of the papers will have the opportunity of doing so.

Also of outstanding importance at the convention will be the attention which will be devoted to gas sales problems. "What the Operating Department Thinks of Sales" is a subject which will be discussed by Louis Stein of the Northern States Power Company, Minneapolis, Minn. Irwin D. Wolf, secretary of Kaufmann's Department Store, Pittsburgh, Pa., will talk on "Utility Merchandising—Frank Views of an Outsider."

*Louis Stein*

David M. DeBard, of Stone & Webster, Inc., Boston, Mass., will deliver an address on "Load-Building Analysis—the Guidepost to Sales Development."

Inasmuch as the tentative program is not complete, it is impossible to present herewith the names of other headliners who will be heard at Atlantic City. A more complete outline will appear in the October issue of THE MONTHLY.

The following are the tentative programs announced by the Association sections:

### NATURAL GAS DEPARTMENT TENTATIVE PROGRAM

*Monday Afternoon, October 13,*
2:00 o'clock

MEETING ROOM C
MUNICIPAL AUDITORIUM

Opening Remarks, H. C. Morris, chairman, Dallas Gas Company, Dallas, Texas.

Committee Reports

- Main Technical and Research Committee, H. C. Cooper, Hope Natural Gas Co., Pittsburgh, Pa.
- Natural Gas Convention Time and Place Committee, R. W. Gallagher, The East Ohio Gas Co., Cleveland, Ohio.
- Natural Gas Fields, R. W. Hendee, vice-president, Oklahoma Natural Gas Corp., Tulsa, Okla.
- Long-Distance Transmission of Natural Gas, F. C. Brown, vice-president, Continental Construction Co., Kansas City, Mo.

## A. G. A. to Go on Air

**A part of the night session of the A. G. A. Convention will be broadcast from 9 to 9:30 Wednesday, October 15, direct from the Atlantic City Auditorium ballroom. Halsey Stuart & Company have generously offered to give the Association their hour on the air.**

Pipe Line Leakage, J. A. Martin, superintendent of transmission, Lone Star Gas Co., Dallas, Texas.

Election of Officers

### ACCOUNTING SECTION—TENTATIVE PROGRAM

*Monday Morning, October 13*
10:30 o'clock

MEETING ROOM D
MUNICIPAL AUDITORIUM

*Open Meeting on General Office Machine Accounting Plans*

An open meeting for informal discussion of machine systems for general office accounting will be held, starting at 10:30 A.M., and continuing throughout the morning and afternoon.

It is planned to distribute, in advance of this meeting, copies of reports describing the machine accounting plans of three utility companies. All general office accountants, as well as representatives of accounting machine manufacturers, will be invited to attend the meeting to take part in the discussion.

The equipment described in the reports and other equipment that can be used for the same type of work will be exhibited at the Convention.

*Tuesday Afternoon, October 14*
2:00 o'clock

MEETING ROOM D
MUNICIPAL AUDITORIUM

Address of chairman, John L. Conover, Public Service Electric and Gas Co., Newark, N. J.

In this address, reference will be made to the activities of all Accounting Section Committees and the work of those committees not scheduled to appear on the program will be reviewed in detail.

Report of Nominating Committee, F. H. Patterson, chairman, Rochester Gas and Electric Corp., Rochester, N. Y.

Some Natural Gas Accounting Problems, F. B. Flahive, Columbia Gas and Electric Corporation, New York City.

Discussion

Report of Insurance Committee, R. T. Kendall, chairman, Consumers Power Co., Jackson, Michigan.

Discussion

The Accountant—The Statistician—The Economist, Professor Louis Haney, Director of Bureau of Business Research, New York University, New York City.

Report of Committee on Office Personnel, A. M. Boyd, chairman, Philadelphia Electric Company, Philadelphia, Pa.

Discussion

### CUSTOMER RELATIONS SESSION

*Thursday Afternoon, October 15*
2:00 o'clock

MEETING ROOM D
MUNICIPAL AUDITORIUM

Good and Bad Customer Relations Practices, J. D. Houser, Associates, New York City.

Customer Relations from a Woman's Viewpoint, Ethel A. Conklin, Consolidated Gas Co., New York City.

Development of Customer Relations in the Natural Gas Field, Representative of S. California Gas Co.

Training Employees for Good Customer Relations, H. N. Baker, Gen. Supt., of Customers' Service Department, Westchester Lighting Co.

Adjournment.

### COMMERCIAL SECTION—TENTATIVE PROGRAM

*Tuesday Afternoon, October 14*
2:30 o'clock

MEETING ROOM B
MUNICIPAL AUDITORIUM

Address of chairman, George E. Whitwell, Equitable Gas Co., Pittsburgh, Pa.

Report of Nominating Committee and Election, N. T. Sellman, chairman, Consolidated Gas Co. of N. Y., New York City.

Domestic Load Survey, What it Teaches the Commercial Man, T. V. Purcell, The Peoples Gas Light & Coke Co., Chicago, Ill.

Discussion

What the Operating Department Thinks of Sales, Louis Stein, Northern States Power Co., Minneapolis, Minn.

Discussion

Salesmanship an Art—or—Winning a Sales Argument, Borden & Nyberg, New York University, New York City.

Discussion

House Heating—Economics of the Conversion Burner, H. O. Loebell, V. P. Combustion Utilities Corp., New York City.

*Glimpse of Atlantic City's Famous Boardwalk*

*Wednesday Afternoon, October 15*

2:30 o'clock

Developing Natural Gas Sales, H. M. Crawford, General Sales Manager, Pacific Gas & Electric Co., San Francisco, Calif.

Discussion

Utility Merchandising, Frank Views of an Outsider, Irwin D. Wolf, secretary, Kaufmann's Department Store, Pittsburgh, Pa.

Discussion

Home Service, Its Place in the Gas Industry, E. P. Prezzano, vice-president, Westchester Lighting Co., 9 South First Avenue, Mt. Vernon, N. Y.

Discussion

Load Building Analysis, The Guidepost to Sales Development, David M. DeBard, Stone & Webster, Inc., Boston, Mass.

## INDUSTRIAL GAS SECTION TENTATIVE PROGRAM

*Wednesday Afternoon, October 15*

2:00 o'clock

MEETING ROOM C
MUNICIPAL AUDITORIUM

Address of the Chairman, C. C. Krausse, Asst. Manager Fuel Sales, Consolidated Gas Electric Light & Power Co., Baltimore, Maryland.

Report of Nominating Committee, J. P. Leinroth, General Ind. Fuel Representative, Public Service Electric & Gas Co., Newark, New Jersey.

Election

The Economic Position of Gas Fuel in the Corner Bakery, T. J. Gallagher, Manager Hotel & Restaurant Dept., Peoples Gas Light & Coke Co., Chicago, Illinois.

Written and oral discussion

The Industrial Sales Manager, C. E. Muehberg, Manager Industrial Sales, Consolidated Gas Co. of New York, New York, N. Y.

Written and oral discussion

*Thursday Afternoon, October 16*

2:00 o'clock

Problems of Sales and Service Encountered in Change-Over from Manufactured to Natural Gas, J. H. Gumz, Industrial Gas Engineer, Pacific Gas & Electric Co., San Francisco, California.

Written and oral discussion

Cycle Control for Heat Treating Furnaces, L. B. Crossman, Manager Industrial Sales, Boston Consolidated Gas Co., Boston, Massachusetts.

Written and oral discussion

Gas as a Competitive Fuel for Large Scale Pottery Burning, W. M. Taylor, Ohio Fuel Gas Co., Columbus, Ohio.

Written and oral discussion

## MANUFACTURERS' SECTION TENTATIVE PROGRAM

*Monday Afternoon, October 13*

2:00 o'clock

MEETING ROOM C
MUNICIPAL AUDITORIUM

Address of the chairman, F. G. Curfman, vice-president & general manager, Improved Equipment, Russell Engineering Corp., 24 State Street, New York City.

Report of Nominating Committee

Symposium—Constructive utilization of statistics as an aid to the economic promotion of sales of appliances, apparatus and materials utilized in the gas industry.

## PUBLICITY AND ADVERTISING SECTION

*Tuesday Afternoon, October 14*

2:00 o'clock

MEETING ROOM E
MUNICIPAL AUDITORIUM

2:00 o'clock

Address of the chairman, James M. Bennett, chairman, Philadelphia Electric Co., Philadelphia, Pa.

Report of Nominating Committee, Harlow C. Clark, chairman, The Public Service Electric & Gas Co., Newark, N. J.

Election

How Change-Over from Manufactured to Natural Gas has Affected Company Advertising and Publicity, F. R. Jamison, Public Service Company of Colorado, Denver, Colo.

Gas Advertising's Job, Earle Whitehorne, McGraw-Hill Publishing Co., New York City.

A. G. A. Advertising and Publicity Activities, Keith Clevenger, American Gas Association, New York City.

Advertising "Tie-Ups" for the Gas Man, D. M. Mackie, The Commonwealth & Southern Corp., Jackson, Mich.

Advertising's Relation to Gas Sales Promotion, Frank D. Schauer, Equitable Gas Co., Pittsburgh, Pa.

## TECHNICAL SECTION—TENTATIVE PROGRAM

*Tuesday Afternoon, October 14*

3:00 o'clock

MEETING ROOM A
MUNICIPAL AUDITORIUM

Address of the chairman, Bernard V. Pfeiffer, The United Gas Improvement Co., Philadelphia, Pa.

Report of Nominating Committee, H. E. Bates, chairman, Peoples Gas Light & Coke Co., Chicago, Ill.

Report of Committee on Economic and Engineering Survey, R. G. Griswold, chairman, Cities Service Co., 60 Wall St., New York City.

Paper, "Substitution of Natural Gas for Manufactured Gas in Public Utility Operations." George Wehrle, Supt. of Gas Dept., Public Service Company of Colo., Denver, Colo.

Report of Subcommittee on Cooperation with the Oil Industry on the Utilization of Petroleum Products, Joseph A. Perry, chairman, The United Gas Improvement Co., Philadelphia, Pa.

(Continued on page 424)

*B. A. Rolfe* (insert) *and his Celebrated Orchestra*

# Entertainment Features on Convention Program

By A. H. Thorn

INTERWOVEN with the business program of the twelfth annual convention of the American Gas Association, which will open its five-day meeting at Atlantic City, N. J., on October 13, will be found a round of entertainment features designed for the enjoyment of members, their families and friends who will be in attendance.

This lighter side of the convention will be in keeping with all traditions of the American Gas Association. Under the guidance of A. H. Thorn, Peoples Gas Light & Coke Co., Chicago, as chairman, and W. J. Clark, Westchester Lighting Company, Mount Vernon, N. Y., honorary chairman, the Entertainment Committee has worked out a series of events which is expected to eclipse previous efforts.

Entertainers who will assist in contributing to the pleasure of all in attendance have been drawn from the stage and radio broadcasting studios. There are few Americans who do not know Jessica Dragonette, the gifted soprano whose voice is so well-known along the air channels. B. A. Rolfe and his "Lucky Strike Dance Orchestra" form a national institution. And "The Cavaliers"—no radio program of the Cities Service Company is complete without that celebrated quartet. These are a few of the artists who have been engaged to furnish some of the high spots in the entertainment program.

The President's Reception at 9 o'clock, Tuesday night, October 14, will be the initial entertainment feature. B. A. Rolfe and his orchestra will be on hand to furnish the music for this occasion, and will continue with popular airs for dancing in the big ballroom of the Atlantic City Municipal Auditorium until 1 a.m.

Wednesday afternoon, October 15, ladies attending the convention will be the Association's guests at a luncheon at the Sea View Golf Club. Transportation will be provided, arrangements having been made for buses to leave the Hotel Traymore at noon, returning at the conclusion of the afternoon's function. During luncheon,

*Tricky Golf Course at Atlantic City which will be open to A. G. A. Members and Guests*

*Atlantic City Auditorium Ballroom*

music will be furnished by Rolfe's orchestra.

All of the club's facilities will be available to the Association's guests. The committee in charge has arranged for card-playing, tennis, golf, use of the indoor sea-water swimming pool, and various contests will be staged.

In addition to the Wednesday afternoon functions at the club, arrangements have been made with the Sea View management so that members may enjoy golf privileges from Monday, October 13, to Friday, October 17, inclusive.

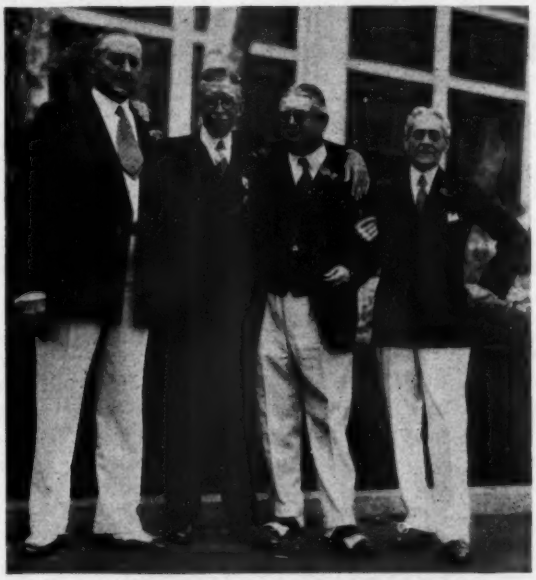
At 8 o'clock Wednesday night, October 15, a concert participated in by leading artists will take place at the auditorium. The program will include numbers by the B. A. Rolfe's Orchestra, Jessica Dragonette and the Cavaliers Quartet. A portion of this program will be broadcast.

Dancing, which will follow the concert, will continue until 1 a.m.

Arrangements have been made for a carbaret entertainment Thursday night, October 16. This program will introduce novel features by well-known singers and performers. The cabaret will take place on the main floor of the ball room. There will be dancing between the acts, and it will continue until 1 a.m.

Admission to all entertainment functions, except the Ladies' luncheon, will be by Convention badge only. Tickets for the Ladies' luncheon may be obtained at the Registration Desk.

Another feature arranged for the pleasure of A. G. A. members will be the privilege of playing as guests of the Association on the "Tricky Golf Course," on the Boardwalk, between Texas and California Avenues. The convention badge will admit any member or guest to this miniature course.



*Committee in charge Ladies' Afternoon at Sea View Golf Club, left to right—A. H. Thorn, W. J. Clark, J. D. Taylor and R. S. Doull*

Members of the Entertainment Committee are as follows:

A. H. Thorn, chairman, Peoples Gas Light & Coke Co., Chicago, Illinois.

W. J. Clark, honorary chairman, Westchester Lighting Co., Mt. Vernon, N. Y.

Robert S. Clarke, Jr., Ruud Manufacturing Co., New York, N. Y.

Merrill N. Davis, S. R. Dresser Manufacturing Co., Bradford, Pa.

R. S. Doull, The Consolidated Gas Co., of New York, New York, N. Y.

Paul Ford, Gas Service Co., Kansas City, Mo.

W. M. Fowler, Lovekin Heater Co., Philadelphia, Pa.

Chester Grey, Atlantic City Gas Co., Atlantic City, N. J.

W. G. Murfit, Philadelphia Gas Works Co., Philadelphia, Pa.

E. A. Normal, General Office Equipment Corp., New York, N. Y.

W. H. Tappan, The Tappan Stove Co., Mansfield, Ohio.

J. D. Taylor, Walker & Pratt Manufacturing Company, Boston, Mass.

C. R. Zeskey, Pittsburgh Equitable Meter Company, Kansas City, Mo.

C. W. Berghorn, Secretary, American Gas Association, New York, N. Y.

Ladies' Committee:

Mrs. Chester Grey, chairman Mrs. H. M. Brundage, Mrs. Merrill N. Davis, Mrs. C. H. Fogg, Mrs. Paul Ford, Miss Virginia L. Forward, Mrs. W. M. Fowler, Mrs. Donald McDonald, Mrs. H. C. Morris, Mrs. W. G. Murfit, Mrs. E. A. Norman, Mrs. Clifford Paige, Mrs. F. H. Payne, Mrs. J. D. Taylor, Mrs. A. H. Thorn, Mrs. C. R. Zeskey.

Jessica Dragonette was born in Calcutta, India. With her parents she spent the first half-dozen years of her life in distant corners of the earth and not until she was six years old did she see the United States. Then she was brought to Georgian Court, a convent school, at Lakewood, N. J.

With a natural gift for music, the little girl quickly became a favorite of the sisters and they paid special attention to giving her a solid groundwork in musical technique. She studied

*Cavaliers Quartet, left to right—John Seagle, Baritone, Lee O'Rourke, first tenor, Darrell Woodford, Basso, Robert Steven, second tenor, individually known as concert artists and on radio as the Cities Service Cavaliers*

piano from the time when her fingers were scarcely able to reach an octave and always she sang, at the masses and whenever there was other opportunity.

After she was graduated, Miss Dragonette went to New York. Not long afterwards, she was chosen for the only solo part in "The Miracle" and subsequently appeared as Kathie, the leading rôle in "The Student Prince," and as ingenue in the 1926 edition of "The Grand Street Follies."

As a staff artist, her voice was heard by millions of listeners, when she broadcasted from WEAF and WJZ now united as the National Broadcasting Company, New York.

Miss Dragonette is petite and blonde with eyes which, she says, are "plaid" in color. Among her accomplishments, is a talent for writing verse and a number of her poems have been published.

The NBC National Cavaliers, and their leader, David Buttolph, who also will be features at the Atlantic City Convention, replaced the Revelers, and duplicated their success, while the Revelers were winning fresh laurels in London and Paris.

The boys have been together for five years after a chance meeting one summer at Schroon Lake in the Adirondacks. They sang together to amuse themselves and a few friends and, after a few of these impromptu concerts, the public value of their work was obvious.

David Buttolph, regarded as one of the most promising of young American musicians, makes their special arrangements, accompanies and directs The National Cavaliers whose members are as follows:

*Jessica Dragonette—Light opera and musical comedy star, but perhaps better known as "America's Radio Sweetheart"*

Leo J. O'Rourke, first tenor, who also makes arrangements; Robert Stevens, second tenor, also an accomplished musician; John Seagle, son of the well-known teacher, Oscar Seagle, baritone, who has made many Victor records, including some old and favourite hymns; and Darrell Woodford, bass, who paid for his singing lessons as a printer.

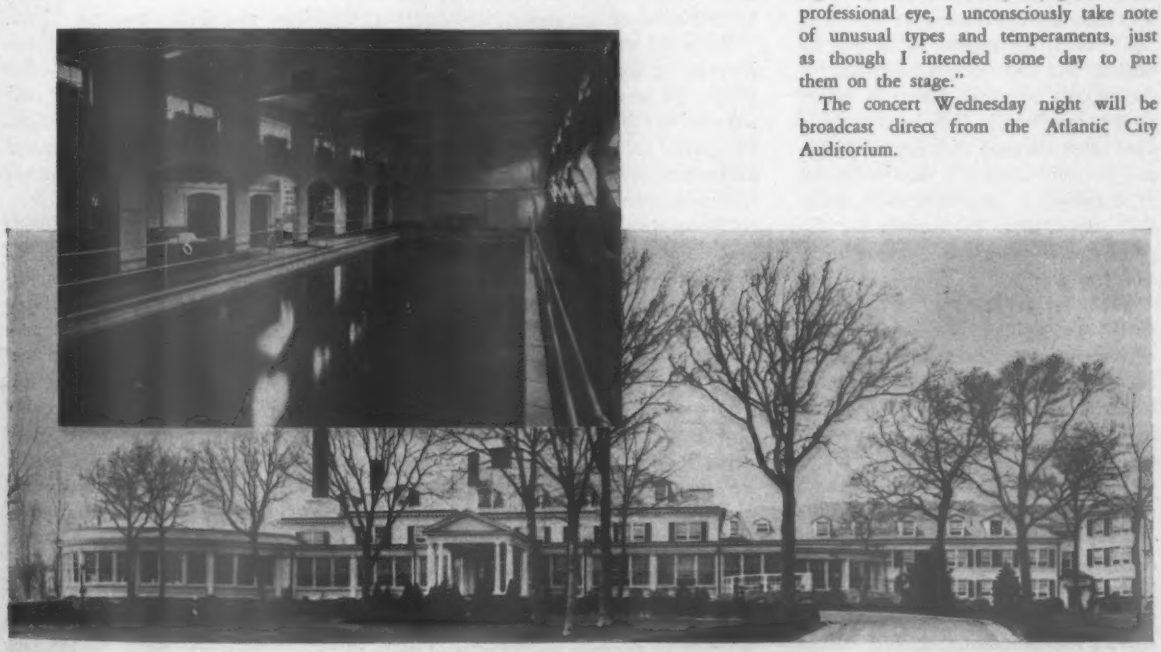
Standing, large and impressive, before his thirty-five piece dance orchestra, B. A. Rolfe is not totally oblivious to his environment, whether it be one of the studios of the National Broadcasting Company or the Atlantic City Auditorium.

When asked whether he ever remembers any of the many dancers who pass in a continuously changing mosaic beneath his baton at one of his "personal appearances," Rolfe replies, "you'd really be surprised how much I do remember, and how I am affected by every engagement which I play 'in person'."

"For instance," explains the popular director, "I often pick out a couple of the best dancers on the floor and introduce special rhythms which their dancing suggests to me. Accordingly, I remember the dancers long after, since I frequently incorporate their idea in future programs. Also I try out new rhythms and program-patterns and naturally remember the reaction I receive in each town.

"Having formerly been a producer of vaudeville acts and movies, I also frequently find myself thinking, for example, 'There goes a little black-eyed girl who would be a whiz in a romantic skit.' Having for years looked at pretty girls with a professional eye, I unconsciously take note of unusual types and temperaments, just as though I intended some day to put them on the stage."

The concert Wednesday night will be broadcast direct from the Atlantic City Auditorium.



*Sea View Golf Club at Atlantic City, N. J.* Above—*The Club's Indoor Sea-Water Swimming Pool*

*Pouring from Holding Pots into Dies*

By J. B. Nealey
American Gas Association

# Gas Cheapest for Permanent Mold Method of Casting Kitchenware

PRESENT-DAY practice in producing castings from the aluminum and other alloy series is divided into three principal methods known as sand casting, permanent mold and die casting, and there is a subdivision for the second of these which is called semi-permanent. In this latter method sand cores are used with the alloy steel mold. Sand casting is used when the final casting is large and the production too limited to warrant the expenditures necessary in making up a steel mold or die.

When large numbers of identical parts are wanted, definite physical characteristics necessary, a smooth finish desired and a high coefficient of heat conductivity essential, as in cooking utensils, either the permanent mold or die casting method is employed. The products made by these two methods are much more accurate and require much less machining than do those produced in sand molds. A higher density is also obtained, when the molds and dies are correctly designed, for the casting, during shrinkage, draws from feeders rather than from itself. Furthermore, castings made in chill molds have a finer grain structure on account of the more rapid solidification of the metal.

With the permanent mold method, however, a somewhat wider range of alloys can be used than with that of die casting for the hot metal is poured by gravity in the former and forced under pressure in the latter. For this reason die casting is practically limited to alloys with melting points ranging only up to about 1400° F., for the dies would deteriorate too rapidly at higher temperatures, under the extreme pressure employed.

The alloys most generally used with the die castings method are those with an aluminum base, zinc base, tin base, lead base. In the permanent mold method, on the other hand, the metals are poured at atmospheric pressure and the molds will stand molten alloys at much higher temperatures, such as copper, brass, etc., which melt in the neighborhood of 2000° F.

The Monarch Aluminum Ware Company, Detroit, Michigan, produces a general line of aluminum and other alloy castings in the form of household cooking utensils, and parts for motors, automobiles, airplanes, washing machines, toasters, irons, waffle irons, etc. The method employed most extensively in this plant is the permanent mold, although sand casting is used when more economical. There are only a very few concerns that use the permanent mold method in this country and the details of practice are therefore correspondingly more interesting.

Castings with almost any combination of physical properties are made at this plant from alloys used, mostly aluminum. For instance, aluminum with small percentages of copper, silicon, iron, magnesium, and tin, either or all, produce castings with tensile strengths varying from 18,000 to 30,000 lbs. per sq.in. and with elongation percentages in two in. running up as high as 10 per cent. If heat treated, the tensiles run between 24,000 and 55,000.

One of the most commonly used alloys is one containing 92 per cent aluminum and 8 per cent copper,

which, when poured, develops a tensile of 18,000 to 20,000 lbs., a yield point of around 16,000 lbs., and an elongation of from 2 to 3 per cent. Another contains 95 per cent aluminum, and 5 per cent silicon with a resulting tensile of about 24,000 lbs., a yield point of 17,000-18,000 lbs. and an elongation of 4-5 per cent. Still another, and one of the toughest, consists of an aluminum base with nickel, magnesium or manganese and castings made from these, when heat treated, develop tensile strengths ranging from 35,000 to 40,000 lbs. By slightly varying the small percentages of alloying metals, a wide range in physical characteristics can be obtained.

The molds are semi-steel castings made in two or more parts, which, when held together, form the shape of the casting to be made. These parts are held in a mechanical device within a frame which operates through cams, link motions, rack and pinions, etc., to force and clamp them together during pouring and pulls them apart to allow the casting to drop out. This latter includes drawing the cores. When a new job is introduced a whole new machine is built for it. These machines are hand operated.

The practice is to melt the alloys in regular melting furnaces, transfer the molten metal to holding furnaces or crucibles and pour direct from these into the molds with hand ladles. Now lack of control of the melting and pouring temperatures is the most frequent cause of trouble in the making of aluminum castings. For this and other economic reasons gas is the fuel employed and time has proven it to be the cheapest also. In fact when this plant changed over from oil to gas a saving of 30 per cent in melting costs was effected.

When pouring, the higher the temperature of the metal the slower is the rate of freezing, and the larger the crystal or grain size which causes a progressive decline in the physical characteristics of the resulting casting. If too high, burning takes place. Hence, pouring temperatures are narrowed down to the lower limit of the melting range which calls for close temperature control which in turn dictates the use of gas fuel.

Several types of melting furnaces are used in this plant the most common being a cylindrical oscillating type consisting of a steel retort that is lined with refractory material, which is set in a suitable frame. The furnace chamber or retort is made of steel plate with cast-iron heads and cast-steel collar around the pouring opening. A refractory-lined, cast-iron door, with a vent hole, clamps tightly down on the steel collar when the furnace is in operation. This retort rests on cast-iron stands bolted to a heavy bed plate, and revolves on steel rollers by means of a worm and gear, motor operated.

The retort is split longitudinally, hinged at the back and held together with bolts so that it can be relined with the greatest ease. It is heated directly with a gas burner firing into it through one end. The melting speed is increased by rotating the furnace through 180° or nearly to the pouring point, as soon as it is lighted up, allowing it to remain in this position for 15 minutes and then rotating it to the opposite side a similar amount and for a similar period. This oscillating motion is continued until the metal is ready. These furnaces are of 2,000 lbs. capacity each.

The holding furnaces consist of upright steel shells, brick lined, in which crucibles are held. The firing system consists of a single gas burner, located at the bottom, the flame impinging on the crucible tangentially. The metal in these crucibles, which are of 400 lbs. capacity each, is maintained at the correct pouring temperature by means of thermocouples and automatic temperature controls.

Some of the castings produced in this plant are annealed, others are heat treated, but all pass through the machine shops where are located batteries of band saws for gates and risers, grinders, etc., etc., and rows of lathes, drill presses, tapping machines, polishers, buffers, etc., etc. Final cleaning is accomplished in a washing machine consisting of a rectangular steel shell equipped with a traveling conveyor of steel mesh. A series of nozzles through which hot washing solutions are forced in needle sprays are located in the first part of this machine while a row of gas burners transform the latter portion into a drying oven.

Gas-fired furnaces are also used for annealing and heat treating. For removing casting strains the parts are heated in an oven to 280° F. and allowed to cool slowly with the oven. The heat treatment of these castings consists of heating to the required temperatures and quenching in boiling water, cold water or oil and aging in air. The temperatures used vary from 920 to 980° F. according to the chemical analysis of the metal included in the casting.

When quenched the material is almost as soft as when in the annealed state but increases in hardness and strength (tensile and yield point) when allowed to stand at room temperature. While this aging action is rapid at first it slows down gradually being completed in from 4 to 10 days. There is little or no loss in elongation but there is a decided decrease in plasticity. Some alloys require a second heating and quenching to get the maximum effects while others age spontaneously at room temperature. Hot air blast or steam is sometimes used in the place of water for quenching.

After the material has been brought up to temperature for heat treating (920-980° F.) it must be soaked for time periods varying all the way up to 12 hours before quenching. This of course varies according to cross section of the casting, chemical analysis of the material and physical properties desired. Here again absolute temperature control is essential, for if the heat is too low the effects desired will not be obtained and if too high partial melting and burning together with loss in strength and ductility will follow. It is also necessary to reduce the time period between the furnace and the quenching medium to the absolute minimum as the initial rate in temperature decline must be as rapid as possible.

## Orders 21 Compressor Engines

TWENTY-ONE big compressor engines for use along a 900-mile gas pipe line from gas fields near Amarillo, Texas, to Lincoln and other points in Nebraska and Iowa, have been ordered by the Lone Star Gas Company and other companies associated with it in constructing the line. Twenty-four inch steel pipe is being received at the rate of two and one-half miles per day and construction work is proceeding rapidly.

# Gas Company Employee Proud When Son Wins Edison Scholarship

TO the seventeen-year-old son of a gas plant chief clerk has fallen the distinction of being proclaimed the "smartest boy in the United States." The lad is Arthur O. Williams, Jr., of East Providence, Rhode Island, the son of Mr. and Mrs. A. O. Williams. Mr. Williams is chief clerk of the Sassafras Point Plant of the Providence Gas Company.

Young Williams won international fame last month by winning the Thomas A. Edison scholarship, which will entitle him to four years at the Massachusetts Institute of Technology, the institution which he selected after capturing Mr. Edison's scholarship.

Of course, the boy's parents were delighted with his success.

"Arthur always had what he called a hobby for physics," said his father. "He is particularly fond of experimental physics and had determined to enter Brown University. He would have been accepted there on certificate from the high school, because he was on the Rhode Island honor roll, and he preferred the course there after looking into what other universities have to offer. I suppose now, however, he will go to M. I. T., or some other scientific school, where higher mathematics is taught.

"Arthur is deeply interested, and somewhat proficient, too, in mathematics, particularly calculus, and has been tutoring some candidates for Brown.

"Since he was a little shaver he has wanted to be a scientist. He is different from his brother, who also is very bright, but likes sports. Arthur is an omnivorous reader.

"We, his mother and I, have always talked to him about getting high marks in order to enter college, since we wanted him and his brother to have better advantages than we had. I was

*Arthur O. Williams, Jr.*

something of an athlete when in high school, and was one of three players whom Yale scouts sought to enlist. The others accepted and were graduated from Yale, but I entered business after finishing high school. We have been ambitious for a better education for the children, and Arthur seems in a fair way to get it now.

"We could not afford to send him to M. I. T., and keep him there four years. We expect he will make good, and are exceedingly grateful to those who taught him, to those who recommended him as the competitor for Rhode Island and to those who have found he is entitled to highest rating.

"We expect him to make good, principally because he is modest, industrious, and a little of what I call 'self-conscious' in the way John Stuart Blackie defined it. People who are sure of themselves and have the proper mental and physical equipment generally 'get there,' we believe.

"His mother has been a great inspiration to him and to his brother. She has always advised him to be pleasant, to present his best appearance and to do his best always. He owns hundreds of books and is familiar with their contents.

"I remember when we visited Boston seven years ago, calling at the Y. M. C. A. We missed him and, looking around, found him sprawled out reading one of Shakespeare's plays.

*Arthur O. Williams*

When we told him that was too serious for such a youngster he said he had read it five times.

"We have received many congratulatory messages, and are grateful to our friends for their interest."

Van Zandt Williams, the thirteen-year-old brother, is a junior in East Providence High School, and about a year ahead of where Arthur was at his age. Mrs. Williams came from the Van Zandts of Albany, N. Y.

Curiously enough, according to Mr. Williams, Arthur said just before leaving for New Jersey that he did not really want to win, because it would probably prevent him from entering Brown University. He made the best showing in the examination conducted by the committee Governor Case selected to pick a candidate to represent Rhode Island, and the Governor was enthusiastic when he learned of Arthur's success in the Edison test.

# Says Natural Gas Finds Best Market Among Industries

RAPID extension of pipe lines is making natural gas available to thirty-six of the forty-eight states," says *The Business Week* in its issue of July 23. "The general public has been wondering who is going to burn all this gas. So have officials of the industry. They are turning from a study of the mechanical problems of distribution to an effort to find out just who can use gas, what rates the various types of customers can afford to pay, what is their most profitable market.

"A nation-wide investigation including interviews with natural gas producers, pipe line officials, industrialists, householders, chambers of commerce indicates:

"(1) Industry will supply the big market. Natural gas is to be the industrial fuel in all parts of the country except the North Alantic and Pacific Northwestern states.

"(2) Natural gas will never figure prominently as a boiler fuel in power plants except within 200 miles of the gas fields.

"(3) Natural gas will never displace artificial as a domestic cooking and heating fuel except in the few cities where cheap blast furnace gas can be mixed with the natural. Rates for cooking gas will not be reduced materially. Few towns now using the artificial can hope to get the natural for cooking at rates lower than those they now pay.

"(4) Natural gas will not be sold cheaply enough to permit its general use as a house-heating fuel except in the South near the sources of supply.

"(5) 'Old King Coal' is by no means dethroned and his most serious opponent for the profitable household fuel business is not natural gas but oil.

"From the replies of potential users of natural gas it is evident that industry can afford to pay from 25 to 35 cents per 1,000 cu.ft.; the householder about twice that. Possibly the latter could go as high as

**Trade Paper Asserts Investigation Shows Piped Fuel May Never Figure Largely in Household Use or in the Power Plant**

seventy-five cents but no further. Power plants, it appears, cannot justify any price over nineteen cents.

"Against these prices must be measured the rates at which the natural gas people can sell the fuel. They point out that the price when the gas is first piped into a community is by no means the one which will prevail thereafter. To create a demand, they will take on business at a low price. Later, service at the initial price will be discontinued or the rate raised.

"Gas officials hold that the household cooking load is the least attractive of all because it consists of three peaks—morning, noon, night. If gas mains and equipment were to be devoted exclusively to meeting this demand, they say, the low load factor would involve too heavy an investment to be justified. The rate would consist of a large overhead or base plus a consumption charge. This, they point out, is actually the condition in many plants making artificial gas. The cost of the coal and oil consumed in making a cu.ft. of gas is insignificant compared to the overhead charges in the equipment per cu.ft. of gas sold. If natural gas is piped several hundred miles, the investment charges on the pipe line are so high that the gas cannot be placed exclusively in the cooking load. Few towns now using artificial gas can hope to buy the natural for cooking at rates below the present for artificial.

"In a few localities, steel works have large amounts of blast furnace gas that is used by gas companies. This product is very inferior in heating value and is worth little, but, when mixed with rich natural gas the blend equals the artificial and costs much less.

"Natural gas officials feel that the domestic heating field is somewhat better than the cooking from their point of view but it, too, has its drawbacks. While the demand is fairly uniform during a day, it varies from zero to a high maximum during the course of a year. A pipe line devoted exclusively to supplying the domestic heating demand would have to place a heavy overhead on the gas sold. Obviously, the heating rate cannot justifiably be much under the cooking rate except when volume consumption makes it possible.

"There will be many householders, gas officials believe, who, for the convenience of gas heating, will be willing to use gas when it costs twice as much as coal. But where the gas must be pumped beyond 500 miles, the heating rate, except in unusual cases, will be too high seriously to injure the coal market.

"The industrial load, such as is provided by open-hearth steel furnaces, heat-treating furnaces, glass works, japanning furnaces, is the most attractive of all, the gas people believe. In this field consumption is uniform throughout the day for the entire year and the pipe line can be kept working at capacity.

"To obtain this business, gas companies say they will be willing to offer rates that will compete with coal. It is for this reason that the Mississippi River Fuel Corp., with a line from the Louisiana fields to St. Louis, East St. Louis, Ill., and Alton, Ill., wants only industrial business and will not take domestic.

"The power plant boiler load, it appears, is not attractive to the gas people although it offers a steady

(Continued on page 424)

# Gas and Water from Same Pipe

By JOHN F. WEEDON

People's Gas Light and Coke Company
Chicago, Ill.

GAS and pure, cool, drinkable water, delivered through the same pipe! This should rank a place in the "Believe It or Not" cartoons, but as a matter of fact you would not have to go very far, not even out of Chicago, to see this phenomenon.

There is a wooden shack at the foot of Grand Avenue upon which is a notice board informing the passerby that it is the entrance to the water tunnel now under construction by the City of Chicago engineers attached to the Water Department.

With the proper sort of an introduction you will be escorted to an elevator shaft, and soon find yourself three hundred feet below the surface, in what appears to be a mammoth cave, some twenty feet high and the same in width. The walls of this cave, which is, in fact, an artificial tunnel bored in solid rock, are of Niagara limestone, moist and dripping with clear water. Westward the walls of the tunnel are smoothly finished with concrete, which is prepared and mixed in the tunnel, one fifth of the limestone excavated being utilized in the concrete.

When completed this tunnel will extend from the crib, three miles out in the lake, to the western line of the city, thirteen miles in all, and has a capacity of seven hundred million gallons of water a day; two hundred gallons per inhabitant.

Out of consideration for the visitors, a narrow gauge construction train was turned into a transportation facility and we were given a ride to the end of the tunnel under the crib. The whole length is well lighted wih electric lights, but so that we should not miss anything someone turned the switch, leaving us in total darkness, half way out. Also, to furnish another little thrill a few charges of dynamite were exploded.

But the big show piece was the pipe which conveys both gas and pure, cool, drinkable water. It is an inch pipe, located almost directly under the crib. The gas is lighted, and we were told has been burning without interruption for six years, the flame is upright and from eighteen inches to two feet high.

Below this gas flare, from the same elbow, runs a stream of pure, fresh water. You are handed a dipper and invited to taste it;—naturally you expect some taint of gas or oil, but the water has no taint of any kind, and differs not at all from good well water, or from that obtained from an artesian spring.

We were also informed that this water comes from Devil's Lake, Wisconsin, the nearest place to Chicago that this particular stratum of rock comes to the surface.

An elevator, large enough to hold about six people at a time, then conveyed us upwards to the crib. This crib was badly knocked about by last winter's storms. The tunnel served as a means of escape for the men that were out there. Huge monoliths were tossed around like timbers, and no human being could have stayed through these storms and lived to tell about it.

A city tug was awaiting us at the crib to convey us back to Chicago, and here another surprise awaited us. There is nothing new to us in Chicago architecture, tall buildings and the skyline; but seen from three miles out in the lake, on a dark night, it is something to wonder at. No scenery ever placed on a mimic stage could begin to compare with it. Marble and granite masterpieces softly flood lighted; neon signs in purple, blue and orange, red lights, white lights, revolving lights, and search lights, and glittering rows of boulevard lights that look like strings of diamonds of a Nubian prince.

A trip at night out on the lake is worth while for no other purpose than to see the city as it can be seen from no other point of vantage. New York has its harbor and its famous sky-line, but for sheer beauty Chicago far surpasses it.

The opportunity to explore this tunnel and see its attendant wonders came through the courtesy of one of the City of Chicago engineers. Skyscrapers are self-evident and earn their own applause, but the underground work being done by our city engineers does not advertise itself. It is really marvelous and quite as essential to the well being of the citizens and the welfare of the city as any of our numerous "show pieces" of which we are so justly proud.

Ladies accompanied us on this trip. Due to an old superstition of workers in the underground, which held that women in tunnels brought bad luck, it is only very recently that the ladies have been welcomed. That superstition had been scrapped, and not a vestige of it remains. Engineers are too busy, or too modest, to talk about the wonders they perform, but like every other kind of worker they need appreciation and advertisement, and ladies, they find, are excellent purveyors of both.

If you get a chance to visit this tunnel before the water is turned in don't miss it. And if you don't get a chance at the tunnel, take a trip out on the lake some night and see the city in all its beauty, as it can be seen from nowhere else.

## Increases Gas Line Capacity

CAPACITY of the pipe line system of the Cities Service Gas Company, is being substantially increased in Oklahoma. The expansion program, which is for the purpose of insuring an adequate supply of natural gas to meet the peak winter demands in the homes of more than a million and a quarter persons, includes the addition of twenty-four new compressor station units of 1,000 horsepower each or a total of 24,000 horsepower to the compressor stations in Oklahoma, Texas and Kansas, which assist in transporting the natural gas along the lines that serve Wichita, Lawrence, Kansas City and other northern markets.

# Last Mortgage On A. G. A. Laboratory Burned

LEADING executives of the gas industry met at the American Gas Association Laboratory, in Cleveland, Ohio, July 30, to take part in ceremonies which marked the lifting of the debt upon that institution, whose cornerstone was laid two years ago.

Burning of a $15,000 mortgage removed the last indebtedness on the Laboratory. This unusual event took place in the courtyard of the Cleveland building. Surrounded by Association officials and the Laboratory staff, B. J. Mullaney, President of the Association, touched the mortgage to a natural gas flame and it was quickly consumed amid the enthusiastic applause of more than fifty witnesses.

The ceremonies were brief and were presided over by R. M. Conner, Director of the Laboratory. Those who spoke besides Mr. Mullaney included C. T. Henderson, of Cleveland, who represented R. W. Gallagher, of Cleveland, Chairman of the Managing Committee of the Laboratory, and president of the East Ohio Gas Company; Alexander Forward of New York, Managing Director of the Association, and A. H. Hall, vice-president of the Central Union Gas Company of New York, and a member of the Managing Committee in the early years of the institution.

Absence from Cleveland prevented the attendance of Mr. Gallagher, and the latter's regret was expressed to the gathering by Mr. Henderson.

Other speakers also were regretful over the absence of Mr. Gallagher, who was one of the prime movers in launching the Laboratory and since its creation one of its most loyal supporters. Another staunch advocate of the institution and earnest worker in its behalf before and after its establishment whose absence from the ceremony was noted by all present, was the late Martin B. Daly, former president of the East Ohio Gas Company. Mr. Mullaney said that Mr. Daly's memory was cherished by the industry throughout the country.

*B. J. Mullaney, right, is shown burning a $15,000 mortgage, the last indebtedness on the A. G. A. Laboratory, Cleveland, Ohio. Those watching this event, from left to right, are as follows: A. H. Hall, Vice-President, Central Union Gas Company, New York, N. Y.; C. T. Henderson, East Ohio Gas Company; R. M. Conner, Director of the Laboratory, and Alexander Forward, Managing Director of the American Gas Association*

Telegrams of regret over their inability to attend were received from N. T. Sellman, of New York, and R. B. Harper, of Chicago, both members of the Managing Committee.

For the purpose of testing and certifying gas appliances, the idea of the Laboratory was conceived not many years ago, and in a small way it began to function August 1, 1925, in quarters on the property of the No. 2 Plant of the East Ohio Gas Company at Cleveland. Rapidly increasing demands upon the limited space called for more room and carefully planned facilities and it soon became apparent that the Association should have its own structure.

Within the brief space of five years it has expanded its work; its usefulness and its prestige until it is officially recognized and strikingly commended everywhere, and it is now practically impossible to sell a domestic gas appliance that does not bear the Laboratory's seal of approval.

The splendid support extended at all times by the manufacturers in the industry and their whole-hearted acceptance, oftentimes at considerable cost, of the Laboratory policies and program, was stressed by Mr. Forward.

Work on the present Laboratory building was started in the Spring of 1928, and it was dedicated on September 13, 1928—"To promote and develop the gas industry to the end that it may serve to the fullest possible extent the best interests of the public."

Today, approval requirements are in force for practically all domestic gas burning appliances, and that the Laboratory Seal of Approval is sought by all manufacturers is attested by the fact that the present staff of research engineers and chemists is being taxed to its capacity in the work of testing the various devices which daily are being submitted for approval.

The Laboratory is now called upon for research work in many lines important to the gas industry, and is developing into a great research agency.

# New York Reduces Cost of House Heating

A NEW and lower schedule of gas rates, which will mean a substantial saving to customers using gas to heat their homes, and which is expected to extend this automatic house-heating service to many additional customers, went into effect on August 1, in the territory served by the Consolidated Gas Company of New York and affiliated gas companies.

Besides the Consolidated, these companies include the Standard Gas Light Co., New Amsterdam Gas Co., The East River Gas Co., Central Union Gas Co., Northern Union Gas Co., New York & Queens Gas Co., The Astoria Light, Heat & Power Co., Bronx Gas & Electric Co., and the Westchester Lighting Co.

The rates are optional, since the customer has the privilege of choosing either the new schedule or the rate used for general purposes.

While the new rates for house heating are considerably lower than those previously in effect, the form of the rate will remain unchanged. It is available to every customer whose heating requirements are at least 60 per cent of his total annual gas consumption.

The rate is in two parts, the first being an annual radiation charge payable in six monthly installments beginning with the November 1 bill. This charge is based on the amount of radiation required for the premises, and remains the same in the new rate as in the old, namely, twenty cents for each square foot of radiation.

Part two of the rate is a straight charge for the gas used as measured by the meter. This amounts to six cents per 100 cu.ft., which is a 20 per cent reduction or more below the former rate.

This reduction in house-heating rates is the third that the Consolidated Gas Company and affiliated gas companies have made in three years. The first reduction was made in September, 1927, and the second in September, 1929.

The new schedule is in line with the Consolidated Company's policy of reducing rates whenever possible to further the use of its services, and is the direct result of a study made by the company of the house heating and large building heating field. This survey revealed that the average home-owner appreciates the convenience of automatic gas heating, provided the cost is not greatly in excess of what he has been accustomed to pay for crude and solid fuels, stored on the premises.

At the present time there are more than 1450 house heating customers on the lines of the Consolidated Company and its affiliated companies in New York and Westchester County.

NEW GAS RATE

*Cuts Cost*

OF EFFORTLESS HOME HEATING

**Savings of 15% or more offered to users of Automatic Fuel**

EFFECTIVE August 1, 1930, in all territories of the Consolidated Gas Company and affiliated gas companies, a lower schedule of gas rates for house heating purposes is now available to all customers whose fuel requirements are at least 60% of their annual gas consumption.

The reduced charge amounts to a saving of at least 15% as compared with previous rates; in individual cases the economy may be even more.

The present reduction is the third offered by the Consolidated System within as many years, the first having been announced in September, 1927, and the second in September, 1929. It is in accordance with the Company's policy of lowering rates whenever possible to extend the use of its service.

There are two parts to the rate, as before. The first part is known as a radiation charge, which is to enable the Company to estimate in advance the probable requirements of its house heating customers in order that an adequate gas supply may be available at all times. The charge for this remains the same, namely twenty cents per square foot of radiation required for the premises, payable in six monthly installments beginning with the November 1st bill.

The second part is a straight charge for gas used as measured at the meter. This has now been reduced to six cents a hundred cubic feet.

Following are the companies which have participated in the present rate reduction:

*Consolidated Gas Company of New York*
*Westchester Lighting Company*
*Bronx Gas & Electric Company*
*Northern Union Gas Company*
*Central Union Gas Company*
*The Standard Gas Light Company*
*New Amsterdam Gas Company*
*The Astoria Light, Heat and Power Company*
*New York and Queens Gas Company*
*The East River Gas Company of Long Island City*

CONSOLIDATED GAS COMPANY OF NEW YORK
AND AFFILIATED GAS COMPANIES

GEO. B. CORTELYOU, President

THIS ANNOUNCEMENT

*is made on behalf of the many thousands of New York City and Westchester home owners who are now heating with gas or who are planning to install gas equipment for use during the coming winter.*

The lower schedule is the result of a recent study among present and prospective customers, which revealed that the average home owner appreciates the added convenience of effortless gas heating, provided the cost is not greatly in excess of what he has been accustomed to pay for crude and solid fuels stored on the premises.

In order to estimate the probable cost of heating a particular dwelling with gas fuel, it is necessary to measure the radiation requirements in advance. For this reason it is respectfully urged that interested persons communicate with their nearest Gas Company office without delay. There is no charge or obligation whatever for this service.

*The new rate was announced in display advertisements inserted in Metropolitan papers*

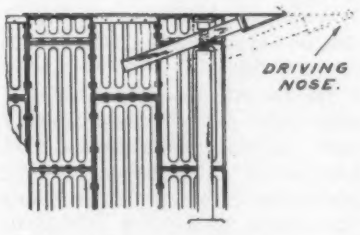
# Crossing a Railroad With Large Gas Main

By HARRY ELLIS
Public Service Electric & Gas Company

THE extension of a 24-inch main in Rutherford, N. J., necessitated crossing beneath four tracks constituting the main line of the Erie Railroad Company, which occupies a cut five feet below the surface of the abutting streets.

Borings disclosed a strata of loam six feet thick, another of dry sand, four feet thick, and beneath this a strata of quicksand, five feet thick, lying upon shale. Inasmuch as the Erie Railroad stipulated that the main be laid five feet below the bases of the rails it meant that excavations would be below the level of subsurface water. Where such soil conditions are encountered it is necessary to drive piles to carry large wooden beams to support the tracks, after which excavations can be made and the trench close-sheathed preparatory to the installation of the main. Under such conditions it is difficult to make sheathing water tight due to the interference of the wooden beams. Furthermore, most of the work would have to be done between the passing of numerous trains, which would have added greatly to the expense.

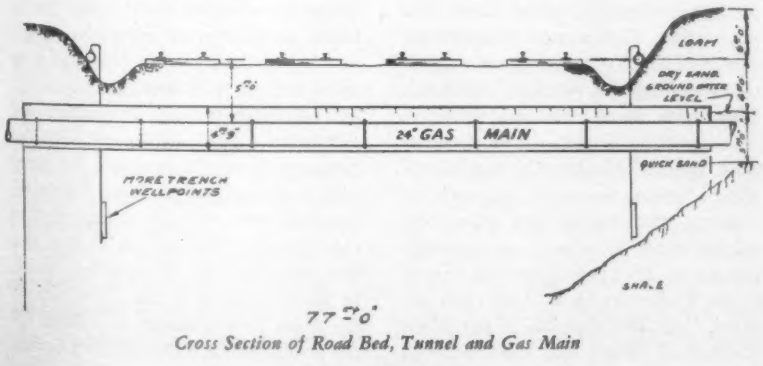
Operations were begun by sinking one and one-quarter inch Moore trench wellpoints, spaced three feet apart, to a depth of eighteen feet on both sides of the roadbed; thirty-eight wellpoints being sunk on one side, and twenty-six on the other, the lesser number being due to the presence of an impenetrable shale on one side. The lower ends of the wells are enveloped with a fine wire mesh through which the water filters to the wellpoints. These wellpoints were jetted into the ground by the use of a hose connected to a jetting pump, supplied with water from a city fire hydrant. The wells on each




SECTION OF INTERIOR OF TUNNEL.

side of the roadbed were connected to a six-inch suction main attached to a gasoline motor-driven centrifugal pump. After three days of pumping the ground water level was lowered below the proposed zone of operation and two shafts were sunk preparatory to the driving of the tunnel.

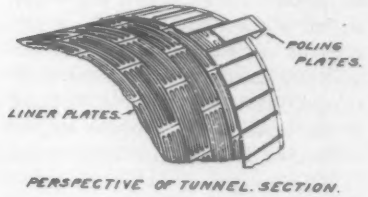
In constructing the tunnel five No. 11 gauge (one-eighth inch) steel segments or liner plates having interior flanges were bolted together forming a ring having an external diameter of fifty-seven and one-quarter




*Cross Section of Road Bed, Tunnel and Gas Main*

*Suction Main and Well Points Along the Road Bed*

inches. Three rings were then assembled in one of the aforesaid shafts and aligned for its course beneath the roadbed. Tongue and grooved steel slabs, known as poling plates, were laid on top of the upper half of the foremost ring. The top center plate was pushed into the earth by applying pressure against the driving nose with screw jacks. The adjoining plates were successively advanced and enough earth removed to install the top segments, after which the remaining earth was removed to a depth of eighteen inches,




PERSPECTIVE OF TUNNEL SECTION.

to complete the construction of a ring. Poling was then resumed for the next ring, such alternate poling and assembling of plates being continued until the shaft at the far end of the tunnel was reached.

As the tunnel was pushed forward, a four-inch field drain surrounded with coarse stone was laid beneath the bottom liner plates to drain any water which might be encountered between the lines of wellpoints.

Following the completion of the tunnel, length after length of pipe was lowered into one of the shafts, connected, and tested with air under pressure. After each joint was tested the joined pipes were pushed forward until the shaft on the opposite end of the tunnel was reached. After the installation of the pipe the tunnel was refilled with excavated material with the aid of a water jet.

# Gas Engineering Research at Johns Hopkins*

By DR. WILBERT J. HUFF
Professor of Gas Engineering,
Johns Hopkins University

JOHN C. HOLTZ, a graduate student in gas engineering, has developed some interesting experimental information on some phases of the chemistry and thermodynamics of Gas Research at The Johns Hopkins University. He has found that the formation of carbon disulphide is invariably accompanied by the forma- of a small concentration of other organic sulphur compounds. The quantity of these other sulphur compounds depends in part upon the gas composition; with no oxygen or oxides of carbon present the quantity is relatively smaller, and it is probable that it is composed of carbon monosulphide, just as in the formation of carbon dioxide some carbon monoxide appears. There is also a sub-sulphide of carbon just as there is a sub-oxide of carbon. Unfortunately, the concentration of these monosulphide or subsulphide compounds is very low and analytical chemistry has not as yet developed satisfactory tests, so the study of the exact nature of these sulphur compounds is somewhat handicapped.

When oxygen or oxides of carbon are present in the gas, there appears a relatively greater amount of organic sulphur compounds other than carbon disulphide. Here the increase is probably associated with the formation of carbon oxysulphide but the analytical tests at present available are again unfortunately not sufficiently precise to establish conclusively this probability. In the presence of high concentrations of hydrogen, the formation of organic sulphur compounds is greatly diminished or completely prevented.

These are only a few of the topics investigated in the study. The results obtained, together with others, the nature of some of which was indicated to you last year, with a review of the pertinent scientific and technical literature, have been set forth in the dissertation submitted to the University by Dr. John C. Holtz. Some of the findings were presented in a joint paper before the Production Conference of the American Gas Association held in Cleveland, Ohio, May 21st-23rd, 1930, entitled, "The Origin and Decomposition of Carbon Disulphide in Gas Making. III. Some Chemical and Thermodynamic Effects in the Formation of Organic Sulphur Compounds in Gas Making."

The research dealing with the reactions which go on in the making of water gas, and particularly those relating to the decomposition of steam, was continued by Lloyd Logan. Using the thermal conductivity method of gas analysis, it was found possible to follow the blow and run, and detect very rapidly inefficient operating conditions which otherwise would pass unnoticed for long periods of time and thereby causing considerable loss. Common examples of such disturbances are steam leaks during the blow or the failure of air valves to seat. With a rapid detector, such as that employed in this study, it is possible to avoid such extended losses and thus effect considerable economies at times. While primarily interested in steam decomposition, Dr. Logan studied the problem of water gas making broadly, making a careful review of the information already available upon the economic, chemical, kinetic, and thermodynamic factors and compiled an extensive bibliography of the conditions making for efficient operation. This, with his experimental observations upon the application of the electrical thermal conductivity method of gas analysis to the water gas machine, together with related tests on a commercial steam decomposition meter operating on other principles, was offered to the University in a dissertation entitled, "An Investigation of the Manufacture of Water Gas with Especial Reference to the Decomposition of Steam." A portion of the work of Dr. Logan was submitted to the gas industry last year in the report of the Steam Decomposition Subcommittee of the Water Gas Committee of the American Gas Association.

Another research which was mentioned in part in my discussion last year was the study of the humidity effects in iron oxide purification.

The laboratory work then outlined to you has since been completed by Dr. C. Gordon Milbourne and the fundamental principles there established have been confirmed in plant tests. This work has shown the predominating part played by the water vapor in the gas in determining efficient and economic purification. The fouling reaction, under the conditions tested, was found to proceed most rapidly at intermediate humidities, while the slow revivifying reaction goes on best at humidities which approach saturation. However, at the highest humidities, the gas stream very readily deposits liquid moisture which tends to close the interstices of the purifying mass, thereby setting up undesirable contact and distribution conditions, with a very considerable loss in efficiencies. For that reason, for revivification high humidities sufficiently low to substantially avoid the precipitation of liquid moisture should be chosen. Under most circumstances the use of live steam or live and exhaust steam in mixture is preferable to the use of exhaust steam in the boxes. For purification procedures which involve simultaneous revivification in situ, the slow revivification rates become controlling and accordingly high humidities are demanded. Dr. Milbourne, in the laboratories of the speaker, has carefully reviewed the pertinent literature, has developed a suitable testing method for following the various factors and has presented the information which he has developed to the University in the form of a dissertation. Some of the results which were obtained in this

* Digest of address before the Southern Gas Association Convention, Savannah, Georgia, June 11, 1930.

study, and the conclusions of interest to the gas industry will be presented in the form of a joint paper before the Annual Convention of the American Gas Association this year. The paper will be entitled, "Humidity Effects in the Iron Oxide Process for the Removal of Hydrogen Sulphide from Gas," and it is hoped that it may indicate to the industry methods for effecting substantial economies in purification. It has been estimated that the cost of purification in America alone, including capital charges, may amount to five million dollars annually. If it is possible to save only a small fraction of this amount as a result of this one research, the few thousand dollars a year spent at the Johns Hopkins University for instruction and research in Gas Engineering will be more than repaid to the industry.

The awarding, during the past scholastic year, of the doctor's degree to each of the three research workers whom I have named makes this year's record of some note, particularly because this year was only the sixth since instruction in Gas Engineering was begun. For comparison, the Department of Electrical Engineering had awarded ten doctor's degrees, the Department of Mechanical Engineering one, and the Department of Civil Engineering none since their respective founding at Johns Hopkins in 1912.

The staff of the department has been aided by the subsequent appointment of Dr. Lloyd Logan with the rank of associate professor. Dr. Logan had previously held the rank of research associate in Gas Engineering. He has a long record (some twenty-three years) of engineering and research experience with a number of organizations and institutions, among which were the Koppers Company Laboratories, Mellon Institute, Stone and Webster, the Semet-Solvay Company, the General Electric Company, and others. Prior to coming to the Johns Hopkins University in 1926, Dr. Logan had been actively in charge of engineering and research projects for the Koppers Company.

With Dr. Logan's experience and assistance, it has been possible to introduce some important innovations in the instruction in gas engineering which have greatly aided the presentation of laboratory and field work. A pneumatic-tired truck equipped with folding seats for conversion to a bus ample for the entire senior class was purchased. Arrangements had been made with a number of plants in Baltimore and vicinity which permitted the use of their facilities for instruction. A laboratory or field group could thus be assembled at the University with such analytical apparatus as may be required and transported in a few minutes to large operating plants for the examination of interesting unit processes.

Much of this work done during the past year was carried on in active cooperation with the Consolidated Gas Electric Light and Power Company of Baltimore at the Spring Gardens Station where water gas is manufactured, at the Riverside purification station, and at the Front Street Appliance Testing and Distribution Laboratories. Field utilization and distribution operations of this company were also followed. Work was carried out actively with other organizations, notably with the by-product coke plant of the Bethlehem Steel Corporation at Sparrows Point, Maryland. Other organizations cooperating were the Maryland Meter Works, the Bartlett-Hayward Company, and the Philfuels Company, which last has a station at Reisterstown, about 18 miles from Baltimore. The truck made it possible to visit and examine a number of other operations.

With this transportation available it was possible for the class to visit the Fixed Nitrogen Research Laboratory in Washington, D. C., and during the Easter vacation an extended trip was made to New York and vicinity. During this trip the graduating class visited the Seaboard By-Product Coke Plant near Newark, New Jersey, and inspected operations of the Consolidated Gas Company of New York City particularly at the Astoria and Hunt's Point plants.

One feature of the fourth-year work in gas engineering has always been the design and layout of a gas plant and distribution system for a small community, such as Annapolis. The work is greatly facilitated and rendered more interesting and valuable with the convenient transportation now available.

The purchase of this truck was made possible by subscriptions to the work in gas engineering. The funds were given in response to an appeal by the Advisory Committee on the Department of Gas Engineering, of which W. R. Addicks, senior vice-president of The Consolidated Gas Company of New York, is chairman, and Charles M. Cohn, vice-president of the Consolidated Gas Electric Light and Power Company of Baltimore, is secretary. Other members of the Advisory Committee are Howard Bruce, chairman of the board, the Bartlett-Hayward Company, Philip H. Gadsden, vice-president of the United Gas Improvement Company, L. I. Pollitt, president of the Southern Gas and Electric Corporation, H. B. Rust, president of the Koppers Company, and H. S. Schutt, vice-president of the C. H. Geist Company.

Mr. Pollitt was active in launching the university work in gas engineering and both Mr. Pollitt and Mr. Cohn are members of the committee of the Southern Gas Association handling the cooperative relations between the association and the university. The Advisory Committee on Gas Engineering lost Robert M. Searle by death.

The Advisory Committee has secured pledges amounting to about $78,000 for the continued support of the work in gas engineering. Without this support, it would have been impossible for the work of the department to go on.

A recent development has been the initiating of research in conjunction with a committee of the American Gas Association under the chairmanship of J. A. Perry, of Philadelphia. This committee has placed $3,500 for the prosecution of the work. The problems relate in part to synthetic changes in manufactured gas and will engage the full time services of Associate Professor Logan during the coming summer. He will be assisted by M. A. Elliott, a member of the graduating class of the department, and by D. S. Bittinger, who will have fourth-year standing next year. If the preliminary study opens up questions which are sufficiently important, some phases of the research will no doubt be contin-

ued. The American Gas Association Laboratory, at Cleveland, Ohio, is cooperating in some parts of the work of the committee.

At the invitation of the department, and under the auspices of the American Gas Association, Thomas R. Weymouth, president of the Oklahoma Natural Gas Corporation, gave one of the lectures on Engineering Practice before the School of Engineering and gas engineers and other citizens of Baltimore and vicinity. His topic was "Some Engineering Aspects of the Natural Gas Industry."

Members of the staff of the Department of Gas Engineering have participated actively in the work of the American Gas Association and are members of a number of its important committees, including the Chemical Committee, the Water Gas Committee, the Committee on Cooperation with Educational Institutions, and the Perry-Little Research Committee. Aid has been given to the City of Baltimore through service on the Gas Reference Committee.

The professional research work supported by four large gas companies was continued under the direction of your speaker with Dr. O. W. Lusby, research associate, as senior aid, together with Donald T. Bonney, research assistant, and others. This study has developed into plant operations and much of the work has been done in gas manufacturing plants in Baltimore and New York.

Your speaker addressed members of the technical staff of the Consolidated Gas Electric Light and Power Company at two group meetings. His topic at one was "Corrosion and its Prevention in the Distribution and Utilization of Gas" and at the other was "The Chemistry and Thermodynamics of Oil Cracking."

The department has been called upon for technical advice and consultation by a number of organizations located at various cities in the eastern and mid-western portion of the United States on a variety of topics relating to such matters as water gas and oil gas practice, purification, utilization, carbonization, appliance operation, and natural gas-gasoline recovery operations. It is a pleasure to extend the field of service of the department through such contacts.

Two new scholarships have been donated to Gas Engineering during the year, one for $350 from the American Gas Association, which was bestowed upon Herman H. Ellerbrock, to assist him in graduate work in Gas Engineering, and one from the Columbia Gas and Electric Corporation, which was given to Albert Pfetzing, a first-year student nominated by that corporation from Cincinnati.

The total enrollment in undergraduate and graduate courses was thirty-three, of which three were graduate students. In addition, twenty others were enrolled in the extension course, which met four hours a week throughout the year. The course given during the past year was entitled, "Unit Processes in Gas Engineering," and related to certain fundamental operations such as the flow of heat, the flow of fluids, crushing and grinding, distillation and scrubbing operations.

## To Launch New Pipe Line

SHIP-YARD launching equipment, as well as other nautical apparatus including a deep-sea diving crew and a fleet of about forty row boats, will be used by The Consolidated Gas Company of New York in completing the extension of a gas main to supply City Island with gas fuel.

Work was started on laying the five-mile gas main from the company's Pelham Plant to City Island on July 3, with one-hundred men, including the sea-diver and his crew, and a battery of mechanical trenching, back-filling, and compressing machines on the job.

The main will cross Pelham Bay Channel at a point seven hundred feet wide at low tide, and one thousand feet wide at high tide. This section of the pipe, which will be welded and double-welded on the shore, will be launched on a system of blocks just as ships are launched at boat yards. Twenty or thirty pairs of boats will be used to float it across, and when it is in place, extending from shore to shore, it will be lowerd to the bottom and dropped into a special trench prepared by the diver.

The gas main is six inches in diameter, and will carry gas at medium pressure. The route is through Pelham Bay Park and across the Channel to the island. The pipe has been coated with a special preparation to resist corrosion, the section which will go under the channel receiving seven different applications.

It was expected that gas service would be available for City Island customers by September 1.

## Foreman Receives McCarter Medal

JOHN E. MURPHY, a foreman employed by the Central Illinois Public Service Company, has been awarded a McCarter Medal and Certificate for the successful resuscitation of Ernest Henderson, a pipefitter's helper employed by the same company, who was overcome by gas.

*J. E. Murphy*

Presentation of the medal and certificate took place on July 18 at Rushville, Ill., during an employees' picnic. The award was made by A. E. Scott, manager of the company's safety department, before an audience of about 450 of Mr. Murphy's fellow-employees.

The McCarter Medal is awarded only for resuscitation from gas asphyxiation by the Schafer Prone Pressure Method of resuscitation and is presented through the American Gas Association by Thomas N. McCarter.

## Gas Line Extension to Cost Million

TWO gas pipe lines are being extended northward from the Quinton, Okla., gas field. The Oklahoma Natural Gas Corporation is constructing a sixteen-inch line from this field to Muskogee and other nearby points which will cost approximately $1,000,000. The line will furnish an outlet for gas produced in the vicinity of Brooken, Hoyt and Enterprise, Haskell county.

Work started on the line last June, and the Quinton gas will be turned into the extensive system of the Oklahoma Natural Gas Corporation on completion of the line.

The other line is being built by the Southwestern Natural Gas Company, a subsidiary of the Appalachian Gas Corporation. This line is to be 112 miles long and will extend to Muskogee, Boynton, Okmulgee, Sapula, Sand Springs and West Tulsa. The company has contracts to supply the Muskogee Natural Gas Company at Muskogee and the Sapulpa Gas Company at Sapulpa with certain quantities of gas during the coming winter.

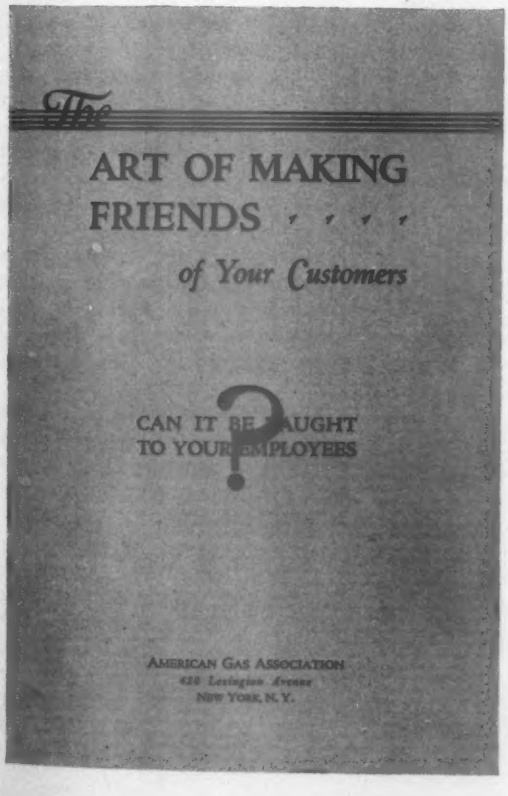
The company has opened headquarters in Tulsa, Okla., and is seeking contracts to supply industrial consumers in several towns along its new line.

# Employee-Customer Relations Course Ready

THE Course in Employee-Customer Relations now being launched by the American Gas Association through its Committee on Education of Gas Company Employees is a practical training opportunity to improve public relations at a nominal cost. It has been found with overwhelming evidence that what the American people want is the human element in their dealings with service companies. Studies made of the public utility industry prove that by far the greatest means for producing good will rests in the conduct of employees with the customer. The customer knows the company only through the employees who represent it.

Confirming this, B. J. Mullaney, president of the Association, in a recent letter said: "Studies made for the Peoples Company brought out this interesting and significant fact. Even when employee-morale is high and employees are trying to do their very best for the Company in their contacts with customers, the results in customer-effect can be far from satisfactory if employees have no instruction *in the details of executing customer contacts*—a salutation, for example, a manner of speaking, a phrase, well meant by the employee but subject to misinterpretation by the customer."

It is almost self-evident, therefore, that employees doing a good job in dealing with customers work more benefit than all the printed advertising in the world. But the "good job" depends upon habits of employees in customer contacts. Behavior is not altered much by preaching. Drilling into employees the word "courtesy" has never produced a lot of satisfied customers. Proper training, however, does assure the habits that produce good will at the contact points, and the Course in Employee-Customer Relations is designed to give this training.




As Charles M. Cohn, vice-president of the Consolidated Gas Electric Light and Power Company of Baltimore, in a recent letter says, "Employee-customer relations is a field of public utility activities which should be studied by employees concerned more intimately, under trained guidance toward improved customer contacts than has been available heretofore. This new course seems to offer an opportunity, practical in nature, to improve their service, which gas companies generally can take advantage of at reasonable expense. The result should be a nation wide revival of interest in this important phase of our Public Relations." The Baltimore Company will, incidentally, enroll 350 employees for the course.

**This article, announcing the new course in employee-customer relations, is recommended. It is believed this course is the first of its kind, and offers an opportunity to company members of the American Gas Association to improve public relations at a nominal cost.**

The Course in Employee-Customer Relations is a carefully planned procedure for building correct customer contact habits. It is devised as a home study course in six units supplied one at a time to each individual enrolled at intervals of four weeks. Class or conference group meetings of employees enrolled should be held under the direction of group leaders chosen from the company. Questions on the text and on the employee's experience are used freely. Papers will be corrected and returned to the individual. The main objective is the building of good contact habits through planning with the customer's point of view in mind.

It is believed that an extremely opportune time was chosen to launch the drive for improved consumer relations. Among those who support this idea is Oscar H. Fogg, vice-president of The Consolidated Gas Company

(Continued on page 424)

# No Let Up In A. G. A. Activities

BY ALEXANDER FORWARD
Managing Director, American Gas Association

IN compliance with the mail vote of the Executive Board, in response to the Managing Director's letter of July 19, the remainder of the mortgage on the Laboratory building and grounds in Cleveland has been paid off. The mortgage was burned at the Laboratory, with appropriate ceremonies, by President Mullaney on July 30. He did it with natural gas. The President called attention to the remarkable record of exactly five years from the Laboratory's small and experimental beginnings to its present standing and influence as an authoritative testing and certification agency, and as a research center. A descriptive article with photograph of the July 30 ceremony will appear in the AMERICAN GAS ASSOCIATION MONTHLY for September.

### *Constitution Amended*

The poll on the amendments proposed by the Executive Board to the Constitution and by-laws of the Association was closed on August 1, with 1890 votes recorded in the affirmative and 7 in the negative. The amendments being now in effect, the General Nominating Committee will proceed with the nomination of two additional vice-presidents.

### *Natural Gas Convention*

The Committee on Time and Place of Natural Gas Convention is considering several southwest cities for the May meeting.

### *Educational Work*

Arrangements are being effected with the University of Kansas for the establishment of a home study course on natural gas production, transmission, distribution, and some utilization, accounting and other phases of natural gas operations. This course will be patterned after the one on manufactured gas so successfully conducted for some years past by Columbia University under the Association's auspices. An advisory committee has been appointed, consisting of A. B. Macbeth of Los Angeles, Frank L. Chase of Dallas, Dr. J. A. Garner of Pittsburgh and J. D. Creveling of New York, to assist in the preparation and conduct of the course.

In the Domestic Gas Salesmanship Course there are enrolled to date 4380 students and additional enrollments are being continually received.

There were enrolled in July 399 in the Industrial Gas Salesmanship Course and additional enrollments are being received daily. The first three units have been furnished to students and the balance of the course is in preparation.

The work of preparing the material for the home study course in employee-customer relations is going forward rapidly. The manuscripts for the first three booklets are now being reviewed by an advisory committee representative of all branches of the Association's work.

The Association's scholarships at The Johns Hopkins University and at Purdue University from the income of the Trustees Gas Educational Fund has been renewed for the scholastic year 1930-1931.

The Columbia University Summer Course on Heat and Household Heating Appliances in cooperation with the American Gas Association at Teachers College, July 7-25, was very satisfactory. The purpose is three weeks' training in the science underlying the use of gas appliances. Dr. C. J. Lynde, Professor of Physics, in charge, comments that this year there was a special effort to attract graduates who are teachers in home economics and science, because of his belief that this type of work could be introduced profitably in high school courses in home economics and science, and that the ranks of home service workers may perhaps be augmented in part from this field.

The Supply Men's Fund Committee has made arrangements for the placement of natural gas fellowships at University of West Virginia and the University of Oklahoma. These fellowships or undergraduate scholarships are expected to start at the beginning of the coming school year.

### *Appliance Testing*

Activities at the Laboratory continue at high speed during the summer months; for instance, a greater number of ranges were tested during July than in any previous month at the Laboratory.

A number of revisions to the Gas Range Requirements for 1931 affect oven thermostats, broiler burner capacities, broiling area, and broiler heat distribution. The Committee will probably add specifications as to the construction of gas ranges for using liquefied bottled gases.

Formal application has been made, after completion of preliminaries in compliance with the action of the Executive Board, to have our Approval Requirements Committee made a sectional committee of the American Standards Association.

For the first time, we have, from a gas company, information to the effect that an approved appliance has given unsatisfactory service. The details are under investigation. This exception seems to prove the rule.

A renewed effort will be made to secure the cooperation of the National Fire Underwriters Association Laboratories in connection with equitable fire-hazard requirements.

### *Research*

A progress report has been issued on the use of cement and cement mixtures in bell and spigot pipe joints. Laboratory tests of a number of pipe joints with different combinations of materials indicated good performance from a mixture of equal parts of ce-

ment and sand, driven with braided jute and cured by wrapping with wet burlap. Work on 16" joints at the University of Pennsylvania indicates promising results in the case of lead wool in trials of pneumatic calking. Testing of these large joints will be continued for at least another month.

The Pipe Joint Research Committee (O. S. Hagerman, Chairman) has a definite program to occupy its activities during the next six months.

Practically all of the experimental work of the Pipe Line Flow Committee has been completed and the working group is now assembling the data from which a report will be prepared. This report should be ready for distribution within about six months.

The Laboratory's study of utilization of propane and butane, directed by the Mixed Gas Research Committee ( F. C. Weber, Chairman) is being continued by varying the amounts of butane in the mixtures. Special apparatus was constructed to determine the dew point as to obtain data on the possibility of butane condensation over an extended range of temperature and pressure conditions. One of the Laboratory's gas holders is in use in this research. Interesting results are being obtained.

Runs on sample coals are being made by the Bureau of Mines Experiment Station in Pittsburgh in our cooperative survey on gas, coke and by-product making qualities of American coals. The character of this work is indicated by a paper presented at the Production and Chemical Conference in Cleveland on May 22 covering certain coals. Our cooperative research agreement with the Bureau has been renewed for the remainder of the Association year.

Report Number 1, of the Gas Measurement Committee, has been prepared in tentative form and will give for the first time recommendations for construction, selection and operation of orifice meters. The report has been circulated for approval and should be turned over to the printer within a short time.

The annual report of the Committee on Industrial Gas Research is in the press.

The Laboratory continues its studies of noises in industrial gas burners, finding that the air-gas ratio is a very important factor, and that the furnace or enclosure seems to be a lesser factor in noise production than had been assumed. It is stated that the tests on the study of characteristics of burning gas with preheated air are yet insufficient to warrant definite conclusions.

In the Laboratory's research in advance of approval requirements, some interesting results are noted in the incinerator tests relative to the flammability of fresh and dried vegetables and fruits, liquids, etc.

The Committee on Gas Well Delivery Capacities is engaged in the study of the very important problem of determining gas well delivery capacities without wasting gas to the atmosphere and without the danger of injury to wells occasioned by present methods. While a very considerable progress has been made, it is believed that another full year of intensive study will be required before a final report can be prepared. This will involve contacts with governmental and regulatory bodies.

### *Conservation of Natural Gas*

The Main Technical and Research Committee of the Natural Gas Department is going ahead with this. Outlines of activities have been discussed with officials of the Bureau of Mines, and excellent cooperation is already manifest. Chairman Cooper is communicating with the Committee on plans to be recommended in Atlantic City.

### *Code for Pressure Piping*

A preliminary draft of a suggested code has been prepared. Messrs. H. C. Cooper and F. A. Lydecker attended a meeting of the sectional committee on this subject.

### *Water Heating Book*

Association Headquarters has just published its handsome and complete book on "Water Heating," as part of the Industrial Gas Series. It has special reference to large volume uses. The editor, C. G. Segeler, is receiving many congratulations on the scope and comprehensiveness of this volume.

### *Cooperative Exhibits*

As in previous years, the Association, under its cooperative plan, will have a large part in the National Metals Exposition in Chicago, the week of September 22, 1930, in connection with the annual convention of the American Society for Steel Treating.

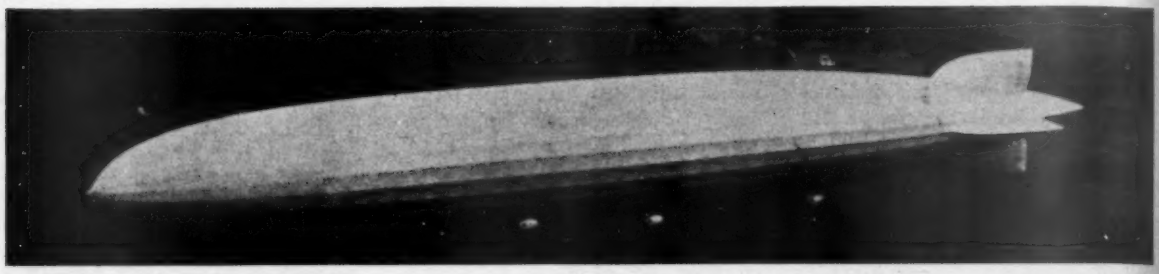
Under the same plan, the Association will have space at the International Conference and Exposition of the Baking Industry, in Atlantic City, the week of September 22, 1930. The Public Service Electric & Gas Company of Newark, and the Philadelphia Gas Works Company and the Philadelphia Electric Company are sharing the expense with the Association.

The Association is cooperating with the local gas company in a display at the American Fair in Atlantic City to the extent of having Miss McQueen, home service counseller at Headquarters, present to supervise cooking and other home service demonstrations. We also have contributed a great amount of literature for distribution. Home Service representatives of manufacturer and gas companies are also assisting.

### *They Like Radiant Heat*

An enormous amount of publicity has been given throughout the United States to the story on the paper on gas radiant heat presented by Dr. Vandaveer, Supervisor of the Laboratory, before the American Chemical Society. The clippings are still coming in!

One indication of the enormous increase in publicity for the industry is shown by a review of the newspapers which published in June our Statistical Department release on the monthly summary of gas company statistics. The short Associated Press story of about three inches was published in 75 daily newspapers of which we have record, with a total of 268½ inches or 2 full pages, while most of the leading newspapers printed a considerably longer story of 6 to 10 inches and these included *New York Commercial* and *Financial Chronicle, Herald Tribune, Evening Post, American, Journal of Commerce, Telegram, World, Times, Sun, and Wall Street Journal,* the *Chicago American, Philadelphia Public Ledger* and the *Boston Evening Transcript.*



Photographs from Carbide & Carbon Chemicals Corporation, New York, N. Y.

*The "Graf Zeppelin" aloft*

# German "Zep" Uses American Gas for Long Flights*

By A. S. Taylor

ONCE around the world: seven times across the Atlantic! This, in brief, sums up what the *Graf Zeppelin* has done since she began her active commercial career in 1928.

In that interval she has journeyed nearly 69,000 miles and has revealed capabilities that have refuted a legion of "Doubting Thomases." On her epochal voyages she has held surprisingly close to the schedules prescribed notwithstanding the fact that wind and weather were far from favorable on a number of occasions. Indeed, her performances have been so fine that the public at large has accepted them as matters of course. This is regrettable, because it has lessened a broad understanding of what the craft really represents in the way of an advance.

Twenty-one years ago on August 29 coming, a Zeppelin sailed over Berlin for the first time and landed at the suburban town of Tegel, where she was greeted with tumultuous acclaim. At that time the trip from the place of building on the shores of Lake Constance to the German capital was a long and somewhat venturesome one. How many of us are aware of what has been done since 1909 to make the present *Graf Zeppelin* possible? Between that memorable occasion and the summer of 1914, German airships of Count Zeppelin's design acquired a measure of commercial significance, voyaging to and fro along certain routes within Germany; and the six airships owned by the operating company had carried the while 37,000 passengers and had flown an aggregate of 90,000 miles.

The work done by that fleet was highly creditable, and especially so in view of the obstacles that had to be overcome and when making due allowance for the essentially pioneer character of the undertaking. The aim of the organizers was thus to lay the foundation of an air-transport system that eventually would have a far wider range of service in Europe. Progress was being made slowly but surely. Then, without warning, the airships designed for a peace-time function were commandeered and ordered to be put to military uses. The task proved a staggering and an extra-hazardous one, beset with disappointments and disasters. Failures served to emphasize the inadequacy of the commercial craft when called upon to meet the varied circumstances of distant flights in time of war. That is to say, the Zeppelins were expected to venture forth in all kinds of weather; to operate in mountainous regions and across broad expanses of open water; and to maneuver at low and high altitudes throughout a range previously not expected of the passenger-carrying dirigibles.

As can be seen, instead of voyaging within a somewhat restricted area as they had done in their years of peace-time service, the Zeppelins were suddenly called upon to journey to points remote from the homeland. This demand necessitated radical changes, tremendous strides forward; and the essays cost heavily in life, material, and money. The war period became virtually a term of experimenting on an extravagant scale: and out of those strenuous years came Zeppelins far superior in every respect to the comparatively modest craft that the Germans had utilized commercially prior to the outbreak of hostilities. One of the fruits of that struggle was our Zeppelin-built *Los Angeles,* which Dr. Hugo Eckner guided across the Atlantic in October of 1924—traveling en route 5,000 miles in the course of 75 hours of flying time.

Fine as the *Los Angeles* seemed when we got her, still she marked an experimental stage in the construction of airships; and her outstanding shortcoming is her dependence upon gasoline for fuel—the weight of that fuel greatly limiting her mobility, her ease of handling, and the total effective load she can carry. For training purposes she answers very well; but a gasoline-propelled dirigible would be of reduced value commercially—the essential gasoline cutting down by just so much the capacity to transport passengers and revenue cargo over long distances. Furthermore, a craft so driven is handicapped when expected to operate under all sorts of atmospheric and weather conditions. It is in this respect that the *Graf Zeppelin*

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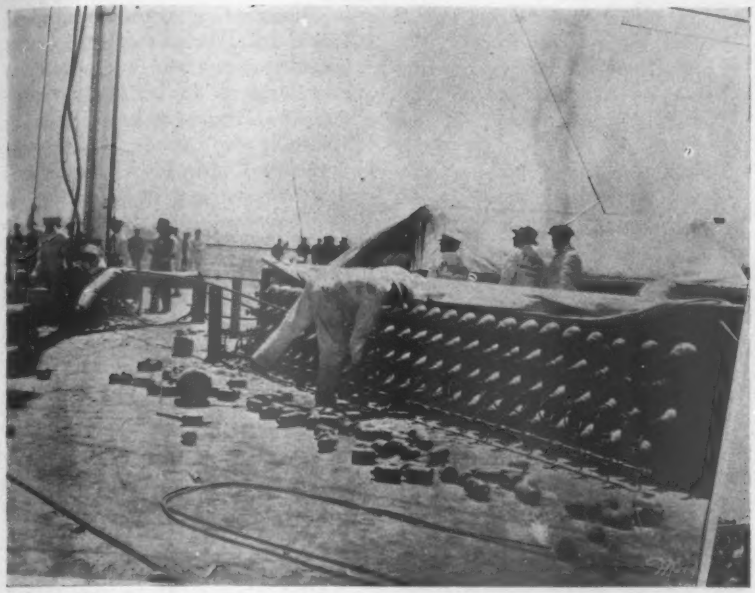


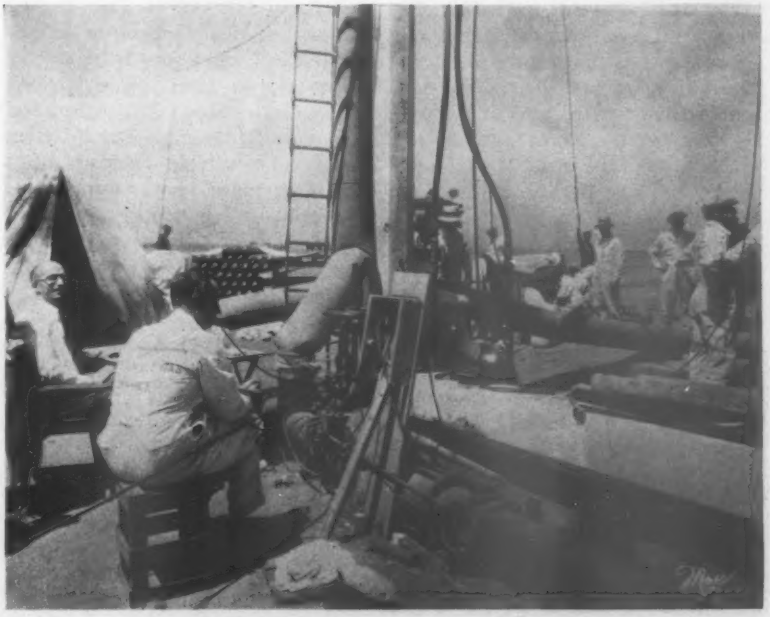
*Hydrogen cylinders and manifold used in spraying hydrogen for mixed fuel gas*

marks a radical departure in aeronautical engineering and a very significant improvement. The *Graf Zeppelin* relies in the main upon a gaseous rather than a liquid fuel for her propulsive energy!

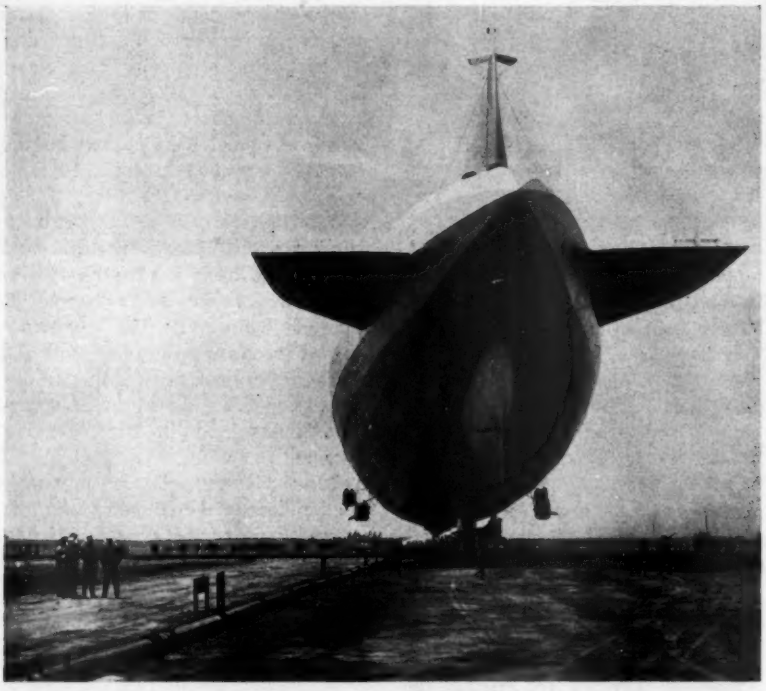
The substitution of a gaseous fuel for a liquid one in the case of an airship like the *Graf Zeppelin* is revolutionary in its effect, because the dead load represented by the liquid fuel is dispensed with and the capacity of the craft to carry cargo is increased proportionately while her radius of action—that is, distance she can travel—is correspondingly amplified. Let us explain this briefly. If the *Graf Zeppelin* utilized gasoline to drive her engines, and her fuel tanks were empty but she were otherwise fully laden, then her gas cells carrying lifting hydrogen would be only about two-thirds filled with that buoyant gas. To get her off the ground with her fuel tanks loaded to capacity, it would be necessary to charge her hydrogen cells to their utmost capacity. In that state, the aircraft would rise to a moderate height, where she would become stabilized or balanced with the enveloping air—in other words, she would float without any tendency to change her altitude. If in motion, the airship could be forced to descend or to rise through the action of her horizontal rudders.

With each pound of gasoline expended in operating the engines the dirigible would become lighter, and the lifting effort of her hydrogen cells would increase directly. This would require the "valving" or discharge of some of the hydrogen to compensate for this difference in weight, otherwise, the ship would have to make a succession of long slanting flights toward the earth—rising at the end of each of these to a higher level before reaching a stabilizing altitude. The slanting flights would call for a greater expenditure of effort per mile of progress overland. In the case of the *Los Angeles,* which uses liquid fuel, it was needful to rise to a height of 12,467 feet before arriving near enough to the Atlantic Coast on her trip from Germany to make it advisable to release any of the ship's reserve of buoyant hydrogen. The experience gained in crossing the ocean with the *Los Angeles* made it clear that an airship using a liquid fuel would be decidedly restricted in her operating range.

When plans were in preparation for the building of the *Graf Zeppelin,* the meteorologist of the Zeppelin Airship Works, a Doctor Lempertz, advocated the use of fuel gas instead of gasoline for the engines—the gas to have approximately the same specific gravity as the atmosphere at sea level and at a temperature of about 60° F. This meant doing away with a good many tons of dead weight, provided, of course, that a suitable fuel gas could be found. The gas finally hit upon was Blau gas—named after its originator, a German chemist. When refueling in Germany, the *Graf Zeppelin*



*Control valves, pressure differential manometer and gas-feed line at base of mooring mast*



*German "Zep" at mooring mast showing pipe through which gas was supplied by the Southern California Natural Gas Company*

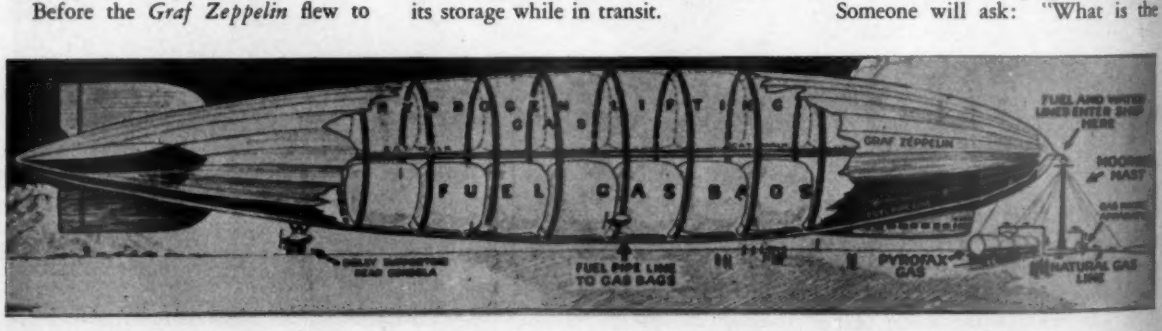
uses Blau gas made in that country by a well-known firm. Blau gas is somewhat expensive, and is produced by gasifying or cracking gas oil at temperatures between 932° and 1,112° F. Blau gas has virtually the same specific gravity as air; but that fuel is not obtainable in large quantities outside of Germany. This brings us to the steps taken to refuel the airship on her world-circling voyage as well as during her recent journey to South America, to Lakehurst, N. J., and thence back to her home port at Friedrichshafen. In this service American engineers and technicists have figured conspicuously.

Before the *Graf Zeppelin* flew to America in the fall of 1928, the Carbide & Carbon Chemicals Corporation was approached by the United States naval authorities for information regarding a supply of suitable fuel gas for the ship's homeward flight from Lakehurst. Dr. G. O. Curme, chief chemist of the Carbide & Carbon Chemicals Corporation, recommended either of two gases—namely, ethane or Pyrofax. Ethane is a perfect fuel for the propelling engines of dirigibles. Pyrofax is equally satisfactory as a fuel but is somewhat heavier than ethane. Ethane has this drawback: it is difficult to ship in large amounts owing to the number of heavy cylinders required for its storage while in transit.

When the *Graf Zeppelin* reached the United States on her second trip across the Altantic and was making ready to start eastward on her flight around the globe, her fuel tanks were filled at Lakehurst with ethane supplied by the Carbide & Carbon Chemicals Corporation from its plant in West Virginia. The gas was sent from that source compressed in numerous steel cylinders. Ethane propelled the airship from Lakehurst to Friedrichshafen—the first leg of the epoch-making aerial voyage.

At Friedrichshafen, the craft again filled her fuel cells with Blau gas for the journey from her home port to Tokyo. At Tokyo the ship had to refuel to make the long trip across the Pacific to the vicinity of San Francisco and thence southward to her landing place at Los Angeles. Weeks before the airship reached the Japanese landing field at Kasumigaura, 765 cylinders of Pyrofax had been shipped there from New York City; and that gas—mixed in the proportion of two-thirds Pyrofax and one-third hydrogen, originating in Japan—was used to fill the *Graf Zeppelin's* fuel cells. At Los Angeles, Pyrofax mixed with an equal volume of natural gas was utilized to recharge the dirigible's fuel cells—the admixture having a specific gravity of close to 1.05, and was, therefore, only slightly heavier than air. The Pyrofax was delivered at Los Angeles in a special tank car containing 300,000 cu.ft. of the fuel in a liquid form. This gasified, when released; and after passing through the mixing apparatus it was delivered to the fuel cells at a pressure of approximately 3 in. of water. This mixed gas is superior to Blau gas, as it contains no poisonous carbon monoxide, has no objectionable odor, and has better anti-knock properties.

Someone will ask: "What is the




*Showing Gas Bags within the "Zep"*

advantage in using Pyrofax instead of ethane? Is it not just as economical to ship one or the other of these fuels?" The Carbide & Carbon Chemicals Corporation makes the difference thus plain: To ship 1,000,000 cu.ft. of ethane, weighing 79,365 lbs., would require the use of 2,404 standard cylinders having a gross weight of 312,520 lbs. The Pyrofax fuel gas equivalent of 1,000,000 cu.ft. of ethane is 650,000 cu.ft.—weighing but 76,500 lbs. and requiring for its transportation only 765 standard Pyrofax cylinders, weighing 130,000 lbs. Pyrofax thus makes it possible to save 91 tons of freight. Furthermore, Pyrofax can be distributed in the United States in suitably designed tank cars, thereby lowering the cost of delivery.

To those of our readers not familiar with Pyrofax, let us say that it is manufactured by the Carbide & Carbon Chemicals Corporation and used extensively as a fuel gas in rural homes or in those communities that are situated where they cannot obtain gas from established city mains. Pyrofax is a derivitive of natural gas. It has a specific gravity of 1.57 at normal temperature; and in order to adapt it for use in lighter-than-air craft, such as the *Graf Zeppelin,* its specific gravity is made to correspond nearly with that of the atmosphere by the admixture of a suitable percentage of hydrogen, which is about one-sixteenth the weight of air. The hydrogen and the Pyrofax produce a mixed gas having the proper heat content for the powerful Maybach engines on the dirigible.

In preparation for the recent flight of the *Graf Zeppelin* from Friedrichshafen to Seville, and from that Spanish city to Pernambuco en route to Lakehurst, a refueling base was established at Pernambuco. It should be recalled that the airship used Blau gas for her engines on the run across the Atlantic to Pernambuco, and for the side trip from the latter place southward to Rio de Janeiro; but before leaving Pernambuco for the flight to Lakehurst the fuel-gas cells of the dirigible were replenished and a large volume of hydrogen was pumped into her lifting cells to make up for losses due to leakage and to "valving" at various times during the voyage. To be exact, the *Graf Zeppelin* received 320,000 cu.ft. of hydrogen for buoyancy and 760,000 cu.ft. of fuel gas—the fuel gas being composed of 510,000 cu.ft. of Pyrofax and 250,000 cu.ft. of hydrogen. Each cubic foot of mixed gas contains 1,760 B.t.u.'s; and all the gases were delivered to the *Graf Zeppelin* by an ER-1 compressor of American manufacture. The discharge pressure from the compressor was 10 lbs. This was necessary to overcome friction in the long pipe lines, and made it possible to deliver the gases to the fuel and the lifting-gas cells at a pressure of a few inches of water. The Pyrofax was sent from the United States to Brazil in 3,500 standard steel flasks.

Before the dirigible left Lakehurst on June 2 on her eastward flight to her home port, the Carbide & Carbon Chemicals Corporation supplied her with a total of 860,000 cu.ft. of fuel gas; and 180,000 cu.ft. of lifting hydrogen was also taken by the ship. The fuel gas was made up of 482,000 cu.ft. of Pyrofax, 251,000 cu.ft. of hydrogen, and 127,000 cu.ft. of ethane. Two tank cars were used to deliver the Pyrofax to the naval air station at Lakehurst. The gas was stored in them at a pressure of 150 lbs. per sq. in. The outstanding feature of this method of replenishing the expended gases is the far-flung service rendered by the company doing this essential work. It is especially interesting to see how a gas that was intended in the first place for household use has become a primary source of power for long-distance dirigible transportation. Americans have warrant for pride in the part played by our technicists in this spectacular use of lighter-than-air craft.

For emergency service, the *Graf Zeppelin* carries approximately 5,000 gallons of gasoline—her motors being equipped with carburetors that make it possible for her to change instantly from a gaseous to a liquid fuel. The gasoline can be used to get the ship off the ground when she is somewhat heavy or to drive her quickly to higher altitudes when forced to cross mountains or when it becomes desirable to ascend rapidly for one reason or another. By expending the gasoline the ship is lightened—reducing by just so much the load on her buoyant gas cells. In other words, she can make headway while conserving her more desirable gaseous fuel. The substitution of gas for gasoline adds tremendously to the commercial value of lighter-than-air craft and, incidentally, increases the ease with which they can be maneuvered and lengthens the distances they can cover between landing places.

## N. D. Van Blarcom Dies At Jersey Home

*D. Van Blarcom*

N. D. VAN BLARCOM, assistant to the vice-president in charge of industrial relations, and personnel director of The Consolidated Gas Company of New York, died at his home in Passaic, New Jersey, August 6, following an illness of several months.

Mr. Van Blarcom was connected with The Consolidated Gas Company for twenty years.

He was active in the affairs of the American Gas Association, serving as a member of the Committee on the Education of Gas Company Employees, and as a chairman of the Subcommittee on the Home Study Course on Manufactured Gas. He was also a member of the Subcommittee on Educational Booklets, and the Joint Committee on the proposed Home Study Course in Accounting.

## James D. Sisler is Elected W. Va. Geologist

DR. GEORGE H. ASHLEY, state geologist of Pennsylvania, announces the resignation of James D. Sisler, associate geologist. Mr. Sisler has been elected State Geologist of West Virginia, and assumed his duties at Morgantown, W. Va., July 1. Dr. Sisler is well-known in the gas industry throughout the Eastern portion of the United States.

## Gas Industry May Aid Bicentennial

BEGINNING February 22, 1932, and continuing until Thanksgiving Day of that year, there will be observed throughout the United States, the Celebration of the Two Hundredth Anniversary of the Birth of George Washington. This celebration is sponsored by the Government of the United States. It is expected that the gas industry will play an important part in the celebration.

# Revised Fire Insurance Rates for Manufactured Gas Properties

MEMBER companies of the American Gas Association have been advised by R. T. Kendall, chairman of the Insurance Committee, that a new fire insurance rating schedule for manufactured gas plants will be put into effect by the stock fire insurance companies. The new schedule has been forwarded to the various rating boards for their adoption, and it is expected that it will shortly be made effective throughout the United States.

The Insurance Committee for some time felt that the experience of the industry warranted reduced premiums and a special subcommittee was appointed for the purpose of discussing technical items and schedule methods and charges with a similar committee of the Central Traction & Lighting Bureau, the bureau of the stock fire insurance companies exercising general supervision over public utility properties. These meetings were found to be extremely helpful in assisting the Insurance Committee and, it is believed, to the insurance interests, in reaching a satisfactory solution of the problem. This new schedule is the result of such discussions.

The Insurance Committee estimates that the new schedule will produce a general reduction of approximately 15 per cent in the insurance premiums on manufactured gas plant properties. The premium for fire insurance is based upon rates independently figured for each separate building or structure and the contents, such as purifier buildings, generator buildings, gas holders, etc. While the average reduction is calculated to be about 15 per cent (taking all classes of properties into consideration) greater reductions are indicated on a number of individual items. For instance, on gas holders the reduction under the stated conditions shown in the schedule amounts to 30 per cent. In other cases tests show the reduction to be 25 per cent or better on good construction.

Following is a list of the principal changes made in the schedule:

1. Reductions in the basis rates for (a) Class "A" buildings, i.e., buildings with incombustible exterior walls and incombustible floors and roofs, and (b) Class "B" buildings, i.e., buildings with incombustible exterior walls but with combustible floors and /or roofs, including buildings with incombustible exterior walls not classified as class "A" buildings.
2. Reduction in charge for lack of fire proofing of metal structural members on buildings.
3. Provision made for rating under the gas schedule bituminous coal when stored in buildings.
4. Coal crushing charges reduced approximately 30 per cent.
5. Reductions made in the penalty charges for oil and other inflammable liquids and distributing systems.
6. A change made in the standards for communications between buildings which should result in reductions.
7. On the better types of construction some of the penalties reduced.
8. Penalty charges reduced and credits increased to more nearly measure the hazards under existing conditions.
9. The basis rate for gas holders reduced by 30 per cent.
10. Revisions made in rates for oil and liquor tanks.
11. The schedule modernized.
12. Other minor downward revisions made.

The Insurance Committee suggests that gas companies communicate with their brokers or agents to ascertain if the local rating authority has adopted the new schedule. There may be slight delays in some territories owing to the necessity of complying with the particular State insurance laws applying. However, if adoption is not made within a reasonable time, the Insurance Committee would like to be advised. The committee also suggests that application be filed with brokers or agents for a rerating of gas properties under the new schedule. The Insurance Committee will be glad to render such assistance as may be necessary or desired.

This new schedule applies to manufactured gas properties only. The Insurance Committee is negotiating with the insurance companies towards the end of effecting somewhat similar changes in the schedules under which natural gas pumping and booster stations are rated.

## To Dispel New York's Smoke Cloud

HEALTH Commissioner Wynne's latest move to abate the smoke nuisance which experts declare is responsible for shutting out 40 per cent of the sunlight to which New Yorkers are entitled holds out a definite promise that something may at last be done to make New York a somewhat cleaner city. In conjunction with the campaign for modernizing and rendering more efficient the Street Cleaning Department, the work of the Noise Abatement Commission and the common-sense traffic reforms of the Police Commissioner, it is welcome evidence that the city is not entirely apathetic to easily remediable ills from which it has long suffered.

The Department of Health inspectors who are to climb to the top of skyscrapers to scan the skies for unnecessary soot will not find their task very difficult. They will see plenty of evidence. Tugboats constitute one great class of offenders and factories on the other side of the Hudson over which the city can have no control do much to pollute New York air, but there are also plenty of buildings in the heart of Manhattan which should be compelled to observe the municipal regulations.

Commissioner Wynne is more than hopeful. "New York air can be made as clean and clear as the country air," he declares. "What's more, we intend to make it so."

## Veteran Employee Dies

Francis X. Murray, assistant general superintendent of the customers service department, The Consolidated Gas Company of New York, died July 19. He was a member of the American Gas Association and was in the service of this Company for thirty-two years.

# Therm Basis Approved for Chicago

THE Illinois Commerce Commission issued an order on July 29, 1930, authorizing The Peoples Gas Light and Coke Company of Chicago to bill its customers hereafter on the basis of the heat units contained in the gas—the therm basis—rather than on the number of cubic feet of gas consumed per month, as proposed in the rate schedules filed by the company with the commission on June 11, 1930. This authorization became effective as to all meter readings taken on and after Friday, August 1. The following statement was released by the company:

"Specifically, the gas bills issued on all meter readings taken on and after next Friday will be expressed in "therms" or heat units, rather than in cubic feet as at present. A therm is 100,000 B.t.u. or standard heat units.

"This authorization makes no change in the heating value of the gas furnished by the company and makes no change in the cost of gas service to the customer; in other words as stated in the commission's order, "the proposed rates will result in bills substantially identical in amount with, and in no case higher than, those which are now being rendered under the rates now in effect, and to all intents and purposes constitutes merely a change in the style of billing." The amount of each customer's bill under the new method of billing will be, to practically all customers, exactly the same for the same quantity of gas used as at present. *The present cubic foot rates will be continued in effect as optional,* so that any customer desiring to do so, may continue to receive his bills calculated upon the basis of the cubic feet of gas used. It is not expected that any considerable number of customers will desire to revert to the old method of billing, since it will offer them no advantage in the cost of the service.

"This change in the method of billing for gas is made at this time, as announced by the Peoples Company when it filed its proposal with the Commerce Commission in June, in anticipation of the time when the gas supply of Chicago will be augmented some time in 1931 by natural gas from the Texas Panhandle field. The company's product then will be a mixture of natural and manufactured gas and, because of its substantially higher heating value, charging for it on a therm basis will be altogether more scientific and accurate. By that time, the company believes, the fairness of the new billing or therm basis will have been established, and the change from the present fuel to one of a different heating value can be effected without creating any confusion in the minds of the customers.

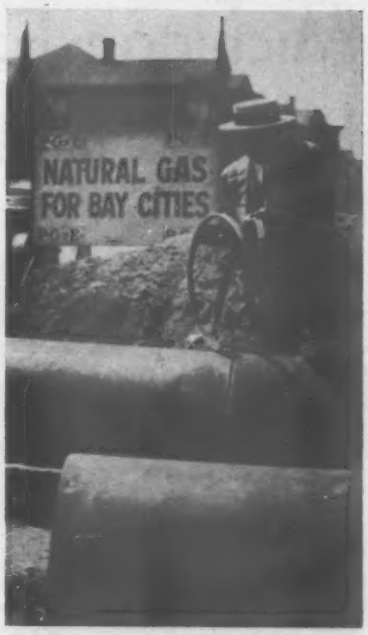
"The City of Chicago has taken notice of this change in the method of billing for gas, and has been represented at Commission hearings on the matter by representatives of the Corporation Counsel and the City Gas Inspector.

"The Council Committee on Gas, Oil and Electric Light, at its meeting held on July 21, appointed a subcommittee composed of Aldermen Coyle, Lesher, and Nusser, to consider the subject. This subcommittee's conclusion, as conveyed to the commission by the representatives of the Corporation Counsel, was that the proposed change in billing method would not be opposed."

## Templet for Fabricating Bends in Large Pipe

THE terminal section of a 20-inch oxwelded natural gas line recently constructed by the Pacific Gas & Electric Company was laid under city streets, where frequent changes in direction necessitated the use of a great many 3-piece, 45-deg. bends and 5-piece, 30-deg. bends. The usual procedure for making a miter bend requires rotating one section of the pipe 180 deg. in order to match up the ends for the bend, but a different method was developed for this job which greatly facilitated alignment and fabrication of the bends in the large diameter pipe.

A 22½-deg. gore was cut from a piece of 20-inch pipe and this became the templet. It was cut in two at the widest part and a hinge was welded on to the two halves. Lug sections were welded on to the two ends to aid in maintaining the proper curvature of the templet. The outside edges were beveled to facilitate marking the pipe. The center sections of the two halves of the templet were cut out to reduce the weight and handles, formed from pieces of welding rod, were welded on, as shown in the illustration.




*The Templet*

In making the cut with this templet a section 6 inches long on the back wall of the pipe is left uncut, which aids in maintaining correct alignment. When the cut has been made and the section removed, the 6-inch uncut section in the back wall is heated with the blow pipe and the pipe is then bent around to the correct position without any lifting. A 45-deg. bend requires two cuts and welds, a 90-deg. bend four cuts and welds. Spacing between cuts is determined by construction details, but wherever possible, long radius bends were used for this large diameter pipe.

This type of templet was used during the entire construction of the line, being very popular with the welders because of its convenient features.

## P. U. A. A. to Meet

PRECEDING the Twelfth Annual Convention of the American Gas Association, a meeting of the Public Utilities Advertising Association will take place October 10 and 11, at the Hotel Traymore, Atlantic City, N. J., according to announcement made by J. R. Pershall, secretary.

# Michigan Extending High-Pressure Lines

*A. W. Stace*

By ARTHUR W. STACE

Michigan Public Utility Information Bureau

MICHIGAN gas companies are extending their high-pressure transmission lines close to 315 miles at this season and are taking gas to more than twenty communities which hitherto have had no gas service, according to construction reports.

This extension work is a continuation of the expansion programs inaugurated intensively several years ago by Michigan gas systems.

Towns to which gas has already been taken as a result of this year's construction activities or to which it is to be taken before winter comes, include: Brighton, Haslett, Leslie, Linden, Imlay City, Almont, Attica, Oxford, Orion, Mulliken, Sunfield, Woodbury, Portland, Vermontville, Nashville, Woodland, Lake Odessa, South Ionia, Portage Center, Vicksburg, Schoolcraft, Utica, Fair Haven and Anchorville. In addition, lines have been laid to service the suburban territory of various cities, including Detroit and Grand Rapids.

By the end of the present year, it is expected that the aggregate mileage of high-pressure mains in the state will reach 2,255 miles, serving 205 outlying communities, in addition to 63 cities which receive gas from plants close at hand.

The bulk of this season's expansion work is being done in the Central and Eastern Michigan territory served by the Consumers Power Company as indicated by the list of towns given above.

Some other systems which have been particularly active during the past several seasons have completed most of their immediate high-pressure extension programs and are devoting their energies this summer to the consolidation of their territories.

The building of high-pressure mains during the past several years to take gas to outlying towns from central generating plants has marked a distinct phase in the development of the gas industry in Michigan. It has been accompanied by a tendency toward the building of larger and more efficient central plants and the abandonment of smaller and less efficient local plants. Thus while the number of Michigan towns having gas service has increased during the past five years from around 70 to 268, and while the output of gas has more than doubled in seven years, the number of generating plants has actually decreased. There are now 59 generating plants in the state, which serve 268 communities and much suburban and rural territory around the larger cities.

The Detroit City Gas Company, in addition to serving Detroit, Hamtramck, Highland Park and Dearborn, has high-pressure extensions radiating out as far as Belleville, 25 miles away to the west, and Rockwood, 20 miles to the south, supplying gas to 20 outlying communities and to 10 townships.

The Consumers Power Company with nine gas producing plants gives gas service to a total of 83 communities. At the end of the present construction work, when Hastings and Ionia are connected with the Lansing plant, seven plants will serve the 83 communities.

The Lansing plant of the Consumers Power Company by the end of the year will be supplying a territory ranging from Hastings and Ionia on the west and north, to Brighton on the southeast, and to Leslie, Eaton Rapids and Charlotte on the south, and including 27 communities, the largest being Lansing.

The Pontiac plant of Consumers Power will be serving twenty-one communities at the end of the present year, its network of mains reaching down to the edge of Detroit, southwest to Farmington, northwest to Clarkston, and east and northeast to Rochester, Oxford and Orion.

The Zilwaukee plant of Consumers Power supplies Saginaw, Bay City and six other communities.

The Flint plant services seventeen communities, going south to Fenton and Holly, west to Durand, north to Clio, and east to Lapeer, Imlay City and Almont.

The Jackson plant serves three communities, and the Kalamazoo plant six. The Manistee plant supplies only Manistee.

The Detroit Edison Company gas plant at Marysville supplies seventeen communities along St. Clair river and back inland, including Port Huron, St. Clair, Marine City and Algonac.

The Grand Rapids Gas Light Company and its subsidiary, the Kent County Gas Company, supply thirteen communities with gas from the Grand Rapids plant, among them being Grand Rapids, East Grand Rapids, Grandville, Sparta and Rockford.

The Washtenaw Gas Company serves Ann Arbor and four neighboring communities.

The Michigan Federated Utilities serve twenty-five communities with plants in eight cities. The plant at Mt. Clemens reaches out its mains to eight other communities. That at Plymouth serves six communities, including Plymouth, Northville and Wayne. The plant at Alma serves that town and St. Louis, Ithaca and Breckenridge.

The Michigan Gas and Electric Company serves Buchanan and Bertrand from its plant at Niles. High-pressure mains running up into

Michigan from South Bend will make possible the abandonment of the Niles gas plant and also the plant at Dowagiac, service coming from South Bend.

The Battle Creek Gas Company radiates out to twelve suburban communities.

The National Utilities Company serves eighteen communities from four plants. The Monroe plant serves nine communities, including Monroe; Grand Haven plant serves six; Coldwater, two; and Hillsdale, one.

The Petoskey Gas Company goes around Little Traverse Bay to Harbor Springs, serving in all six communities.

The Calumet Gas & Coke Company supplies seven communities in the Calumet region, and is planning further extensions.

The Gas Corporation of Michigan supplies Clare and Rosebush from its Mt. Pleasant plant.

The Muskegon Gas Company, Michigan's only company supplying natural gas, runs its mains to Muskegon Heights. The natural gas supply at Muskegon is nearing exhaustion and preparations have been made to return to manufactured gas upon short notice.

The Michigan Fuel and Light Company supplies Allegan and Plainwell from its Otsego plant, and St. Joseph from its Benton Harbor plant.

The Holland Gas Company sends gas to Zeeland through high-pressure mains, and to six resort settlements on Black Lake and Macatawa Bay.

Natural gas is still an uncertainty for Michigan. No available and dependable supplies are as yet in sight. Should natural gas in commercial quantities be found in the drilling explorations now going on, particularly in the Mt. Pleasant area, the network of high-pressure mains will be ready to serve as a distribution system. Regardless of what the future may bring forth they now make available a manufactured gas supply to approximately 3,300,000 persons of Michigan's 4,818,371 population.

## Modern Display in Texas

*Window displays and the interior of the Lubbock office of the West Texas Gas Company, are shown above*

# Affiliated Association Activities

## Wisconsin Utilities Association

*E. L. Brunsman*

THE annual convention of the Commercial Section of the Wisconsin Utilities Association was held at Green Bay on July 31 and August 1. The registered attendance of delegates from gas and electric companies, manufacturers and jobbers, interested in the commercial advertising, business promotion and home service departments totalled 180.

"Home Modernization" was the subject of a talk by Fortney H. Stark, executive secretary of the Milwaukee Real Estate Board. Louis Stein, of the Northern States Power Co., presented an engineer's viewpoint on the methods and accomplishments of the sales department of a gas property in a most interesting and stirring manner. M. F. Heslip, of Hammond, Indiana, prepared a paper on "Gas Refrigeration" which was read in his absence by Chairman F. M. Millington, of the Committee on Industrial Gas and House Heating. R. O. Jasperson, Milwaukee Gas Light Co., discussed "Household and Commercial Water Heating." G. M. Fitzgerald, Wisconsin Public Service Corporation, reported for the Blue Star Committee. "Benefits of Home Service Work as They Appear to the Outsider" was presented by Miss Mary Brady, of the University Extension Bureau, and the coordinating of advertising and sales effort was discussed by Homer J. Buckley, of Chicago. Other subjects covered were employees' sales education, promotional rates and reports of various committees.

Chairman E. L. Brunsman, of the Wisconsin Power & Light Co., who has served for the past six months filling out the unexpired term of F. H. Evans, was re-elected chairman of the section for the coming year. R. O. Jasperson, of the Milwaukee Gas Light Co., was elected vice-chairman.

In his address, Mr. Brunsman pointed out that during the first six months of the year, people in Wisconsin have used more electric and gas service in their homes than during the same period during any previous year, despite the fact that they have curtailed on other general purchases. "This increase at a time when all people are watching their pennies indicates that people are maintaining and even improving the essential efforts and conveniences of modern home life that are provided so inexpensively by gas and electric service," said Mr. Brunsman. He stated that by increasing their use of these services, the customers themselves lower the price per unit, having greater control, under state regulation, over the amount they pay for this service than do the companies themselves.

More money is spent in Wisconsin each year by private utilities than is received by them for services rendered, according to M. H. Frank, president of the association, in addressing the convention. He asserted that the major problem in utility development changed from engineering to financing and then to merchandising. "While improvements will still be made in the utility engineering and financing fields," he continued, "the major problems have been solved. The successful sales program means increased load, improved load factor and reduced unit cost to the customer. Merchandising methods of today demand that every phase of the selling effort be definitely correlated with every other phase."

Other features of the convention included a sketch by the home service department of the Milwaukee Gas Light Co., illustrating the experiences of workers calling at the homes of new or complaining customers. The Home Service Committee held a breakfast meeting attended by twenty-seven home service workers from member operating companies.

A blind bogey golf tournament and speechless banquet with an entertainment provided largely by employees of the host company, the Wisconsin Public Service Corp., and automobile trips for the wives of delegates to points of historic and scenic interest completed the program of a most successful and enjoyable convention.

## Pacific Coast Gas Association

*F. H. Bivens*

THE thirty-seventh annual convention of the Pacific Coast Gas Association will be held at Pasadena, California, September 9 to 12 inclusive, with headquarters at the Hotel Huntington. The Huntington, one of the famous resort hotels of Southern California, is situated on the outskirts of Pasadena surrounded by a spacious park. Inasmuch as the convention location is close to Los Angeles it is expected that all records for convention attendance will be broken.

Features of the convention will include the finals of two three-minute speaking contests, one for men and one for women. Preliminary contests in individual gas company organizations have been going on for some months, the men speaking on "Gas in Industry" and the women on "Gas in the Home." The winners of the individual company contests will talk it out at the convention.

Public relations stunt's night will be repeated. This is also a contest in which a number of gas companies each present a stunt or playlet, the subject this year being, "Modernize with Gas."

The last afternoon of the convention will be devoted to visiting two exhibits, one of the distribution department material and equipment, arranged by the Distribution Committee, Technical Section; and the other, the exhibit of gas-fired industrial furnaces and burners, maintained permanently in Los Angeles by the Los Angeles Natural Gas Bureau.

The business program of the convention will be of unusual interest this year because of its reflection of the many recent important happenings affecting the coast gas industry. The rapid expansion of natural gas service; the legislation leading to the conservation of natural gas; the ambitious plans of several companies for extending gas service through the use of butane; and the effect of recent mergers and consolidations will all be discussed as a part of the program. Close atention also will be given to the results obtained by the association's cooperative advertising program, which has now reached its first birthday.

F. H. Bivens, president of the association, will preside at all meetings. Official nominations for officers of the Association for 1931 are as follows: For president, R. E. Fisher, vice-president of the Pacific Gas and Electric Company, San Francisco; for vice-president, James L. Stone, vice-president and general manager of the Spokane Gas and Fuel Company, Spokane; for treasurer, D. G. Martin, auditor of the Pacific Gas and Electric Company, San Francisco; for directors, R. W. Miller, vice-president, Pacific Lighting Corporation, San Francisco; E. L. Payne, general manager, Payne Furnace and Supply Company, Los Angeles; James F. Pollard, general manager, Seattle Gas Company, Seattle, and George L. Myers, assistant to the president, Portland Gas and Coke Company, Portland.

## Empire State Gas and Electric Association

THE program of the twenty-fifth annual meeting of the Empire State Gas and Electric Association, to be held at Saranac Inn, New York, September 18 and 19, is being arranged with regard to the significance of the occasion. The address of the president, William J. Welsh, will be historical, it is expected. Clifford E. Paige, vice-president of the American Gas Association, and W. Alton Jones, president of the National Electric Light Association, will, respectively, address the meeting on

# Convention Calendar

**Pacific Coast Gas Association,**
Hotel Huntington, Pasadena, Calif.
Sept. 9-12.

**Empire State Gas & Electric Association,**
Saranac Inn, N. Y.
Sept. 18 and 19.

**Indiana Gas Association,**
French Lick, Ind.
Sept. 23-24.

**Illuminating Engineering Society,**
John Marshall Hotel, Richmond, Va.
Oct. 7-10.

**American Gas Association, Municipal Auditorium, Atlantic City, N. J., October 13-17, Alexander Forward, 420 Lexington Avenue, New York, N. Y., Managing Director.**

**Conference Utility Association Secretaries,**
Cleveland, Ohio
Dec. 1 and 2.

**New England Gas Association,**
Hotel Statler, Boston, Mass.
Feb. 3, 4, and 5, 1931.

**Canadian Gas Association,**
Montreal, Que.
June 4 and 5, 1931.

**National Electric Light Association,**
Atlantic City Auditorium, Atlantic City, N. J.
June 8-12, 1931.

the past and the future of the gas and of the electric industry.

Milo R. Maltbie, chairman of the New York Public Service Commission, will speak on "the topic "Rate Making." The uniform and permanent method of cost analysis for rate making purposes will be discussed by Edward J. Cheney, formerly consulting engineer of the commission, a rate expert and well-known to Association members. "The Farm Problem and the Utilities," will be the subject of an address by Wheeler McMillan, author of "Too Many Farmers."

In place of individual reports from sections and committees, Secretary C. H. B. Chapin will make a composite report on all Association activities. As usual business sessions will be confined to the mornngs, leaving the afternoons free for recreation. Golf tournaments, bridge tournaments and other diversions will be arranged. Hotel reservations should be made by writing Saranac Inn, Saranac Inn Post Office, New York. Special sleepers will run from Buffalo and New York, the reservations for which can be made through the Association's office.

## New Jersey Gas Association

AT a meeting of the Executive Board of the New Jersey Gas Association, held recently, the following research committees and chairmen were appointed:

Accounting—L. D. Dickerson, Peoples Gas Company, Glassboro, N. J.

Industrial and House Heating—H. P. Morehouse, Public Service Electric & Gas Co., Newark, N. J.

Merchandising—B. V. Benson, Public Service Electric & Gas Co., Jersey City, N. J.

Technical—J. D. Alden, Jersey Central Power & Light Co., Asbury Park, N. J.

Publicity & Advertising—H. D. Polhemus, Jersey Central Power & Light Co., Asbury Park, N. J.

Manufacturers—H. Simmons, Glenwood Range Company, Elizabeth, N. J.

Home Service—Miss Ruby Kibbe, Jersey Central Power and Light Co., Asbury Park, N. J.

## Thomas F. Kennedy Weds Miss Jessie Weare

A WEDDING of interest to the Cities Service organization in particular and the gas industry in general took place on August 16, when Jessie Weare, secretary to W. Alton Jones, and Thomas F. Kennedy, head of the new business department of Henry L. Doherty & Company, were married at St. Gregory's Church, Brooklyn, N. Y.

Mr. and Mrs. L. T. White acted as best man and matron of honor, and the ceremony was witnessed by Miss Betty Lowrey, head of the filing department, and Mrs. Charles E. White, with whom Mrs. Kennedy made her home.

On August 14, a pre-nuptial dinner was tendered Miss Weare and Mr. Kennedy by Mr. and Mrs. Doherty and Mr. and Mrs. Jones at the Dohertys' apartment in the Westchester-Biltmore County Club.

Mrs. Kennedy is the daughter of Mr. and Mrs. W. E. Weare, of Bethel, Conn., where her father is superintendent of distribution of the Danbury and Bethel Gas & Electric Light Company. She has been a member of the Doherty headquarters' staff for the past ten years, acting as secretary to the late Milan R. Bump. chief engineer of Henry L. Doherty & Company, and to Mr. Jones. Previous to coming to the New York office Mrs. Kennedy was connected with the Montgomery Light and Water Power Company of Montgomery, Ala.

Mr. Kennedy has been manager of the new business department of all Doherty properties since 1923, succeeding the late George Williams who at that time was appointed head of the newly organized Security Holders' Service Bureau. He was born in Roxbury, Mass., in 1901.

*Mr. and Mrs. Thomas F. Kennedy*

## Home Service Activities

# Increasing the Percentage of Customer Contacts*

ONE of the most important problems that confronts any home service director is to devise methods of reaching as large a percentage of her company's consumers as possible. Women differ widely as to tastes, interests, and background, so a widely diversified program is necessary to reach all of them. An important step in solving this problem is for members of the home service group to affiliate with clubs and business organizations. In this way they will build for themselves a place in the community, and the organizations will be apt to feel that it is a privilege to participate in the home service program. When a club extends an invitation to any speaker the members are much more appreciative than if the speaker had requested a place on the program.

The form of any announcement sent out to organizations is very important; phraseology, quality of paper, the kind of type used, and the method of sending,—all play an important part in the effect upon the recipient. Names of organization officers may be secured from newspaper almanacs, club lists, or other sources; a letter written to "My dear Mrs. Brown" will give a personal touch that will be much more effective than the same letter beginning "Dear Madam," and if the letter makes Mrs. Brown feel that the writer is an interesting person the chances are that an answer will be forthcoming. The phrasing of a letter or announcement is of course largely dependent on the group to which it is to be sent. Formality is sometimes desirable, sometimes not. The quality of the paper and the type selected will also vary with the group.

Personal calls upon school and church authorities will often serve as an opening wedge for very valuable work when all other means of entering may fail. A verbal explanation of company policy will usually remove any hesitancy on the part of these authorities, and they are easily convinced that the information a home service department can dispense is invaluable to anyone who uses gas appliances. Health talks to children and their parents, talks on buying of food, planning of menus, laundering, the economical use of gas and the care of appliances are very well received in school circles. One talk, "From Market to Table," was requested by at least thirty organizations as a result of only "word of mouth" publicity.

The projection lantern is a valuable device for interesting children and foreign women in subjects which might otherwise be difficult to explain. We have one which is very easily transported and is operated by the speaker. Small objects may be used, pages from a magazine, photographs, or slides that are reproduced in color. We use ours frequently in conjunction with our talks, because when time is limited and equipment cannot be shown, the lantern may be made to tell the whole story.

Tie-ins with feature authors and club reporters on papers are very valuable, because paragraphs in club columns are widely read, and women enjoy seeing their names in print. They give the home service group prestige, and insure other invitations. Unless the home service director makes friends of these reporters she is frequently unable to get the story of her activities in their columns. Attractive posters in the window will reach people who might not be reached by any other medium. If you watch the effect of these posters you will see both men and women walk by slowly, then turn and come back. They often come in to ask questions. Stickers and enclosures with bills are also very good. We prefer the stickers, because they stay with the bill permanently, and are therefore seen over and over again. Service calls open unlimited possibilities in the way of meeting new groups. Mr. Whitwell, vice-president of the Equitable Gas Company of Pittsburgh and chairman of the Commercial Section of the American Gas Association, says that his home service group call on all new residents and invite them to home service demonstrations; assistance is often given with respect to shopping facilities and the like, and brand new friends are made for the company.

Sales floor demonstrations featuring small appliances will attract to the sales floor people who would not otherwise come, and once there, they are easily induced to look about at the larger appliances.

Card parties attract groups which will not come to cookery or appliance demonstrations, and the short demonstration which precedes the playing may contain a very concentrated sales talk.

Other tie-ins which have come to us from various sources are: Courses for domestics, either foreign or American born; beauty talks by beauty specialists, featuring the importance of hot water; tie-ins with food manufacturers and representatives of magazines; work with child clinics, since it is known that a young baby increases the consumption of gas in a household; correspondence courses; men's classes; courses for Boy Scouts. The last three may or may not directly affect the gas bill; they at least make people—may we say "gas-minded"?

Three members of our Home Service Committee have been working on this problem under the direction of P. D. Warren, vice-president of the People's Gas Light and Coke Company, of Chicago. They have prepared a very complete list of ways in which the percentage of consumer contacts may be increased.

* Address given in connection with Home Service Course at Columbia University by Ruth Soule, The Brooklyn Union Gas Company, Brooklyn, N. Y.

# Home Service Course at Columbia University

*Columbia University Gas Course Group*

THIRTY-EIGHT men and women in July completed the three weeks' course on gas equipment given by Dr. C. J. Lynde, head of the Household Engineering Department, Columbia University, New York, N. Y., in cooperation with the American Gas Associoation and assisted in the laboratory course by T. H. Schleuning, of The Consolidated Gas Company of New York.

For the benefit of eighteen of the women interested in home service work the Home Service Committee sponsored six afternoons of the course, three of which were lectures given by college instructors—a lecture on table service by Mrs. Lillian M. Gunn and two lectures by Dr. Victoria Carlson on "Recent Research in Foods."

Three afternoons were spent with three home service departments—one at the Public Service Company of New Jersey, in Newark, at which Ada Bessie Swann, the director, outlined the "Business of Home Service" in its organization, its relation to the executives, its relation to other departments and inter-relation of directors to a central office. The afternoon also included a typical demonstration.

Another afternoon was spent at The Consolidated Gas Company of New York. Jane Wagner, the director, outlined the activities of their home service department. A sketch, picturing a typical home call, was enjoyed by the group as well as a demonstration on refrigerator desserts.

The third afternoon was spent at the Jamaica branch office of the Brooklyn Union Gas Company. Henry Behrman, test engineer, discussed "Safety of Gas Appliances," and, among other things, flues. Ruth Soule, home service director, discussed "Increasing the Per Cent of Contacts"—telling of the many outside contacts that can be made by a gas company through its home service department.

These afternoons were much enjoyed by members of the course. Other afternoons were at the disposal of the group,—many visiting such places of interest as Good Housekeeping Institute, Delineator Institute, Homemaking Center, Brooklyn Eagle, Home Guild, Radio Homemaker Club, and other Home Service Departments around New York.

Topics covered in lectures and laboratory work follow:

July 7, Household gas range. Adjustment of burners to proper flame and to prevent popping; the gas meter.

July 8, Gas range oven heat controls. Construction, use and adjustment of five controls.

July 9, Household oil ranges, Operation and adjustment of wick and wickless burners.

July 10, Household ranges for compressed gas and for gasoline.

July 11, Expansion and contraction in household appliances.

July 14, House heating with coal, oil or gas; house thermostats.

July 15, Water heating with coal, oil, gas or electricity; hot water tank thermostats.

July 16, Movement of heat in household appliances.

July 17, Heat measurement.

July 18, Specific heat and latent heat.

July 21, Ice refrigerators and freezing mixtures.

July 22, Electric refrigerators. Cooling air by electric power; thermostats.

July 23, Gas refrigerators. Cooling air by burning gas; thermostats.

July 24, Refrigeration in general. Freezing water by evaporation ether, alcohol and water; producing solid carbon dioxide or dry ice.

The enrollment included the following:

Miss Margaret E. Armstrong, Winchester School, Toronto, Canada.

Mrs. Ella B. Armstrong, 30 Porter Place, Montclair, New Jersey.

O. T. Barson, Maxwell Training School for Teachers, Brooklyn, N. Y.

Miss Olga Pauline Brucher, Remsen, Iowa.

Miss Ethel R. Bryant, Lincoln Junior High School, Portland, Maine.

Frank M. Carl, Collingwood High School, Cleveland, Ohio.

Miss Bessie Carroll, High School, Geneva, Ohio.

Miss Stella Clifton, High School, Birmingham, Alabama.

Miss Miriam Cohn, Junior High School No. 164, New York City.

Miss P. A. DuRie, Consolidated Gas Company, 4 Irving Place, New York City.

Mrs. Florence Foreman Ellis, Central Maine Power Company, Rockland, Maine.

Alfred Ensminger, Orange High School, Orange, New Jersey.

Miss Lucy D. Germain, Harper Hospital, Detroit, Michigan.

Mrs. Mary N. Hall, Consolidated Gas Company, 205 Broad Street, Westfield, New Jersey.

Miss Talitha A. Hanke, Macdonald College, Ste. Anne de Bellevue, P. Q., Canada.

Paul B. Harner, Union Manufacturing Company, Boyertown, Pennsylvania.

Miss Florence Hicks, Sam Houston High School, Houston, Texas.

Miss Clara Kinble, Houston Public Schools, Houston, Texas.

Glenn R. Kolstrup, State Teachers College, Platteville, Wisconsin.

Miss Ruth D. Kruger, Bronx Gas and Electric Company, Bronx, New York.

Miss Rae Magnant, New Bedford Gas and Edison Light Company, New Bedford, Mass.

Miss Jessie McQueen, American Gas Association, 420 Lexington Avenue, New York City.

Miss Gwen M. Miller, Nurses Training School, Wilmington, Delaware.

Miss Helen M. Murphy, Central Hudson Gas and Electric Corporation, Newburg, N. Y.

Miss Clarabel O'Blenes, Acadia University, Wolfville, Nova Scotia, Canada.

Miss Leonora Pendergast, Lowell Gas Light Co., 22 Shaltuck Street, Lowell, Mass.

Miss Dorothea E. Rines, Jackson School, Portland, Maine.

(Continued on page 424)

## Commercial Section

G. E. WHITWELL, Chairman J. W. WEST, Jr., Secretary E. R. ACKER, Vice-Chairman

# A. G. A. Course in Gas Sales Administration and Management

THE long-awaited Course in Gas Sales Administration and Management will be ready for operation about October. A special bulletin giving full information and details will be sent to the executives of every member company at an early date. The words "long-awaited" are used advisedly, because the advance interest of gas company executives in the progress and development of this course has been remarkably keen and widespread.

The large number of inquiries that have come to the Association offices, and the fact that over 700 executives have already signified their intention to enroll, is striking evidence that the executives of our industry are fully awake to the constantly increasing importance of gas sales administration and management and eager to study the best available information on this subject.

The course has been prepared as the consequence of an insistent demand from those charged with the direction and supervision of gas company sales for practical help in analyzing their jobs and in solving their increasingly numerous problems. The gas industry is confronted today with conditions which require a changed outlook on the part of its executives. Many new factors, some favorable and some unfavorable to its expansion, have sprung up in the last few years. Every fore-sighted man in the industry who shares responsibility for sales is vigorously trying to determine precisely how those factors affect his interests. Whether he is a company president or a sales force supervisor, whether an officer in a large holding company or a sales manager in a small community, his success in his job depends in large part on his ability to evaluate and fulfill its new requirements.

On the one hand, new and keener competition has developed. More intensive selling by coal, oil, and electrical companies and a declining trend in fuel prices offer direct competition. Changing habits of family life and the increasing output and advertising of packaged and canned foods are typical forms of less direct but equally real competition.

On the other hand, new markets for gas are being developed with surprising rapidity. The modernization of the home is a conception with a vivid appeal for the American housewife; and a vast unworked market for such appliances as gas furnaces, automatic water heaters, gas refrigerators, gas incinerators, and gas laundry equipment has been uncovered with the growth of installment selling. Industry, too, has found it necessary to modernize its equipment in order to keep pace with new production demands; gas-fired equipment is being installed for purposes which not long ago were entirely the province of other fuels; and there has been a startling increase in the use of natural gas to generate electrical power.

The size of the new market stirs the imagination. It can best be grasped by considering the present position of the gas industry, which at the present time is America's seventh largest industry in point of capital investment. About five billion dollars is invested in gas companies; and gas is the second largest public utility. The industry serves almost 17,000,000 customers; and in the last ten years it has increased the number of its customers by 50 per cent, its sales 100 per cent and its revenue by 70 per cent.

Yet in spite of its past growth and present impressive status, it is no exaggeration to say that the gas industry has its greatest opportunities ahead of it. The more than two trillion cu.ft. of gas now produced annually, and the resulting revenue of almost a billion dollars, have been estimated to represent hardly more than two per cent of the nation's total heat requirements.

These are general figures; they apply to the industry as a whole; but they have a direct significance for every individual gas company executive. The changing conditions within the industry are having an effect on the fortunes of every company. Some are affected more, and some less; but every company is faced with the same basic problem—the problem of reaching and keeping pace with its potential market. That problem puts on the sales executive the burden of precisely gauging the potentialities of his market, and adjusting the policies and methods of his company to it.

And with his increase in responsibility goes an increase in opportunity. "Never before," says a leading authority on the industry, "has sheer executive ability been so important to gas companies. Within the next few years, it is almost inevitable that every top executive will have wider scope for his talents and larger operations to control, while every junior executive will have greater chances for rapid advancement. More trained executives are needed as the industry expands; and every company has the problem of developing its own."

Another leader of the industry expresses the same thought in another way: "Any gas company which fails to adjust its sales policy to the changing economics of the industry must inevitably lose to its competition a considerable amount of business which it otherwise might obtain. At the present time, companies facing essentially similar sales problems in nearby communities are showing wide variance in the results they are obtaining. This is largely a consequence, I believe, of differences in managerial policy. Some companies score an outstanding success in devolping house-heating business; others, with equally good potential house-heating market, fall far behind. Some companies develop gas refrigeration to the point where its effect on the load becomes of real importance; others, facing almost identical situations, sell only a few refrigerators annually. Some companies report steadily increasing industrial loads; others, in equally progressive industrial communities, show almost static industrial loads. Why? Look to the management for the answer."

After allowing for all local factors in the problem, it still remains clear that the prime reason why some companies are getting better results than others, in one or another phase of their sales activities, is not so much because of unusually fortunate circumstances as it is because of better planning and management.

The role of sales administration and management in the gas industry is bound, therefore, to become increasingly important, just as it has in every other industry which has been faced by intensive competition. Precisely for that reason, the present Course has been prepared to give the successful managerial methods of the industry immediate currency among gas companies.

A nation-wide survey of managerial practice in the industry was conducted as a basis for the Course. To get the facts at first hand, representative gas companies in all sections of the United States and Canada were visited. These companies were selected primarily because they are operating under conditions common to many companies. The main factors considered in their selection were location, type of community, problems of

operation, nature of load, competition, and corporate structure.

The policies and methods of these companies were discussed freely by their executives. One company had worked out an unusually effective dealer cooperation plan; another company had tried a similar plan with little or no success. One company was operating a scheme whereby employees provided 60 per cent of the prospects to whom sales were made; another had tried it, only to give it up. One company had developed a system of compensation which rewarded the salesman approximately in proportion to the extent to which the company profited from his work; another had abandoned as impractical an attempt to put a like system into effect. Every phase of gas company sales management was subjected to careful scrutiny by trained interviewers and observers.

For the apparent contradictions in the results obtained from each policy and practice there was almost always a sound explanation. Sometimes supplementary activities, which one company used but another did not, were responsible for the success of a plan. Sometimes surrounding circumstances were such as to nullify the effort. In every company visited, however, the experience of the management threw light on one or more phases of sales activity; and the rich experience of all these executives has been analyzed, organized, and developed into the present Course.

The many ideas and methods which are now bringing profitable results to the gas companies studied will be presented in the first seven Units of the Course. The eighth Unit, based upon comparative studies of the results obtained with these methods in other companies, will be compiled from the Experience Reports sent in by the executive registered.

Space does not permit a full and detailed outline of the subjects covered, but the following digest shows some of the more important topics:

*Unit I—Measuring the Sales Job*

Planning and Management—Functions of the Sales Executive—Analyzing Territory—Budgeting Sales Department Operations—Forecasting Sales—Determining Rates.

*Unit II—Establishing Sound Selling Policies*

Establishing a Coordinated Program—Markup and Accounting Policy—Dealer Cooperation—Reports and Records—Trade-ins and Term Payments—Finding Prospects—Organizing Field Work.

*UNIT III—Increasing Load Through Salable Appliances*

Finding the Right Appliances—Buying—Controlling Stock—Displaying Stock—Developing and Service.

*Unit IV—Building Up the Sales Force*

Specifications for Salesmen—Finding and Selecting Salesmen—Training New Salesmen — Compensation — Setting up Quotas—Standards of Performance.

*Unit V—Increasing the Effectiveness of the Sales Force*

Weeding Out Weak Men—Developing Morale—Stimulating Salesmen—Helping Salesmen—Utilizing Manufacturers' Aids—Directing Salesmen.

*Unit VI—Providing Selling Aids*

Sales Equipment—Manuals—Advertising—Mail Promotion—Utilizing Home Service—Utilizing the Engineering Staff.

*Unit VII—Developing Sound Customer Relations*

Giving Real Service—Handling Complaints—Improved Relations with Industry—Cooperating in Community Movements—Broadening Good Will.

*Unit VIII—Preparing for Further Progress*

A Summary of Replies to the Experience Reports—An Interpretation of the Replies—A Program for Growth.

*Every Executive Should Register*

The Course has two definite and practical purposes:

1. To make available in unified form the basic facts about the methods which are producing the most satisfactory results in building gas sales, describing and analyzing those factors which must influence the judgment and opinion of gas company executives.

2. To aid every executive registered to get maximum results from his activities by comparison of his methods and results with those of other companies.

The course thus affords opportunities for *comparative study* and for *cooperative interchange of opinion*, and every company that expects to reap the full benefits should enroll every *major executive*, in addition to all supervisory executives in the sales department.

*The Registration Fee Is Low*

The price of the course—$50 for each person registered—is only possible because of the expectation that all member companies will participate fully in this cooperative undertaking, each one thus contributing its fair share to the total cost.

# To Direct Company Program on Employee Education

FRANK L. HALLOCK, who has been assistant treasurer of the Bronx Gas and Electric Co., New York, N. Y., has been promoted to assistant to Colonel O. H. Fogg, vice-president in charge of commercial relations of The Consolidated Gas Company of New York.

*F. L. Hallock*

(Part of Mr. Hallock's new duties are concerned with putting into effect a program of education for contact employees in the commercial, sales, and customers' service departments.)

Mr. Hallock entered the public utility business in 1910, as a bookkeeper for the Northern Westchester Lighting Co., at Peekskill, N. Y. He later advanced to the position of chief clerk, and in 1921 entered the employ of the Bronx Gas and Electric Co., as superintendent of the commercial department. At that time the company served only about 14,000 gas and electric meters, while at the present time the number is about 100,000.

In July, 1927, Mr. Hallock was appointed assistant secretary of the company, and in February, 1928, assistant treasurer, retaining his duties as superintendent of the commercial department.

Mr. Hallock has devoted much time and energy to association work, having been active on committees of the American Gas Association and the National Electric Light Association. He has been chairman of the accounting division, Metropolitan New York Section, N. E. L. A., a member of the American Gas Association's Committee on Relations with Customers, and chairman of the A. G. A. Committee on Salesmen's Compensation. He is at the present time vice-chairman of the Commercial Council of the Consolidated Gas Company, and is a member of the company's Public Speaking Committee.

Mr. Hallock's friends in the Bronx Gas and Electric Co. recently tendered him a farewell dinner in honor of his promotion, and presented him with a set of matched irons and a golf bag.

## Publicity and Advertising Section

JAMES M. BENNETT, Chairman ALLYN B. TUNIS, Secretary DONALD M. MACKIE, Vice-Chairman


# Refrigeration Demonstration Shows Evolution of Sandwich Man

GAS Refrigeration personified by nineteen pretty girls annexed a new honor at the annual Kiwanis Ball, an outstanding yearly social event in Lowell, Mass. The Electrolux steppers won favor with the jovial crowd of 5,000 spectators who applauded their offering. As a result, refrigeration won for the Lowell Gas Company first prize at the ball.

Mr. Hayes, floor display manager, originated the skit and Mrs. Owen-Jones of the accounting department designed the costumes which sent Electrolux from the display room to the ball.

Catchy steps by the girls caught the eye of the crowd as they presented the message of refrigeration. One of the girls was encased in a refrigerator which was a cardboard replica of the Electrolux EL-5B. She was a center of attraction and apparently the part of playing the refrigerator has many good points after all.

On the sides she was flanked by pretty misses in white skating costumes, trimmed with snowballs. These cool white costumes made an effective tie-up with the idea of refrigeration.

Winning first prize at the Kiwanis Ball is an honor well recognized in Lowell.

## Outdoor Advertising Campaign for Gas Contemplated

THE Publicity and Advertising Section of the American Gas Association is engaged in the preparation of an outdoor advertising poster service for 1931. This contemplated campaign will be devoted to the use of gas for domestic purposes.

Twelve posters, prepared under the supervision of the section, with approval of the Advertising Advisory Committee of the Commercial Section, will be provided, it is planned. The general subjects and number of these posters for each topic are as follows:

Cooking, 3; Water Heating, 3; House Heating (auxiliary and central), 3; Refrigeration, 2; Miscellaneous, 1.

The theme of these posters will be the "modernness" of gas for household heating purposes, as well as its flexibility, cleanliness, and economy. All designs will contain a minimum of words to convey the thought desired, appropriately illustrated.

Indications from letters received from about 100 gas companies, which were interviewed relative to the proposed outdoor advertising program, are that there is a sufficient number of companies interested to justify proceeding with the preparation of this campaign.

The service will be applicable to every section of the country, and if used generally will in effect constitute a nation wide outdoor advertising campaign, as well as a most effective local advertising medium.

## A. G. A. Coke Ads Now Available

ON the opposite page are shown some of the twenty advertisements of the Coke Advertising Campaign, prepared under the supervision of the Coke-Fact-Finding Committee of the American Gas Association.

These advertisements were produced after study of the coke-marketing situation. Coke-adaptability, coke-cleanliness and coke-economy are emphasized in this advertising campaign.

The American Gas Association has a few sets of this advertising, in matrix form, which are available at $50 per set.

## Customers Pick Metaphors on Gas Refrigerator Silence

QUIET as a roving cloud," and "As inaudible as a butterfly poised on white dandelion down lulled in the calm of a peaceful summer stillness," are the two prize-winning metaphors submitted by customers of The Consolidated Gas Company of New York and affiliated gas companies in a special contest recently conducted to secure metaphors to describe the silent operation of the gas refrigerator.

The contest was conducted solely through *Greater Service News*, the Company's magazine for customers. More than seventy metaphors were received, the two quoted above being selected by a special committee to receive cash awards of $5 each.

# To Promote Coke Sales

## Accounting Section

J. L. CONOVER, Chairman — H. W. HARTMAN, Secretary — J. I. BLANCHFIELD, Vice-Chairman

# A Pending File that Improves Service to Customers

By S. W. JEFFREY,
Brooklyn Union Gas Company

FOLLOWING is a description of our pending file in our Customer's Service Department together with pictures showing the type of visible equipment used in connection with this file.

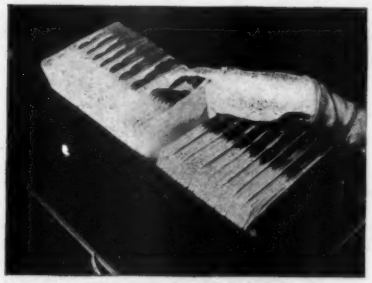
The information or pending file in our orders and records section consists of six special open top or tub desks, wherein is kept a duplicate of each order sent to the shop for execution. These orders are kept according to branch units and street numbers. When the shop is unable to execute an order, it will send to this unit a "Why Not" tag giving the reason for the order not being executed. This information is posted on the back of the duplicate order in the pending file, and shows the reason for not executing the order, the date and time of visit to customer's premises, etc.

All orders are checked every night, those executed being withdrawn from the file, and those on which no answers have been received from the shop are investigated. Hence if a customer calls asking why service has not been rendered, the order clerk, while holding the customer, calls the pending file and ascertains the reason for not executing the order. This information in turn is given to the customer by the order clerk.

This file is a very important unit as it is referred to constantly and from it we are able to give the customers prompt and definite information.

The orders, as they are received, are filed numerically. In view of the fact that the average completion time of an order is one day, the contents of the file changes rapidly as new orders are filed and completed ones withdrawn. Thus, it becomes necessary to file and locate duplicate orders quickly and the speed required is made possible by the use of Brackendex visible equipment.

This equipment consists of two sets

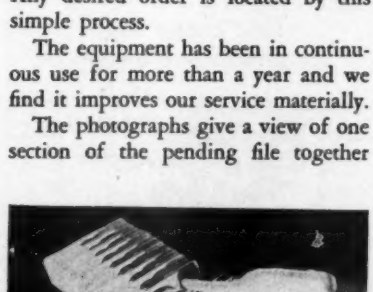


of guides, one set being used to divide the street numbers into sections, and the other to divide the sections so that the cards separate and the street number being sought becomes visible.

For example, as the orders are filed by street numbers, the sectional guides which we will designate as No. 1 guides are set every twenty numbers apart and read 220, 240, 260, 280, etc. A pressure of the finger on No. 1 guides separates these sections of twenty cards into four sections of five cards each. To locate say No. 224, the tabs of No. 1 guides are pressed and when section No. 220 appears, the tabs of No. 2 guides, which are located to the right of No. 1 guides, are pressed and the individual numbers between 220 and 224 appear. Any desired order is located by this simple process.

The equipment has been in continuous use for more than a year and we find it improves our service materially.

The photographs give a view of one section of the pending file together



with the Brackendex equipment as it is now installed.

## Wins Beauty Prize

*Miss Cities Service*

MISS IMOGENE HEDRICKS, of the Wichita Gas Company, who was chosen by Florenz Ziegfeld as winner of the Second *Doherty News* Beauty Contest, is a beautiful girl with dark brown hair, brown eyes, five feet, six inches tall, one hundred twenty-three pounds, twenty-one years old, popular and, what's more, plenty of brains. She was born in Cardsville, Virginia, lived in Salina, Kansas, before moving to Wichita with her mother where she entered the employ of the Wichita Gas Company. In addition to winning the grand prize, Miss Hedricks was awarded the special company prize of the gas service group of companies.

## A. G. A. to Exhibit Before Bakers

THROUGH its Industrial Section, space has been reserved by the A.G.A. at the International Conference and Exposition of the Baking Industry, Atlantic City, September 22-27, 1930, where literature and photographs of gas installations will be displayed.

## Manufacturers Section

F. G. CURFMAN, Chairman — C. W. BERGHORN, Secretary — E. S. DICKEY, Vice-Chairman

# List of Exhibitors Still Growing

ON August 15 the Exhibition Committee had allotted space to more than 240 manufacturers who will exhibit at the Twelfth Annual Convention of the American Gas Association, which will take place in the Auditorium at Atlantic City, October 13-17. Among those below are represented the leading manufacturers of all kinds of gas appliances, accessories, equipment, apparatus, and office devices:

The revised list of exhibitors follows:

Abendroth Brothers....425
A-B Stove Co....608
Adams Bros. Mfg. Co., Inc....134
Addressograph Co....724; 800
Air Reduction Sales Co....834
Alpha-Lux Co., Inc....617
Aluminate Co., Inc....312
American Cast Iron Pipe Co....109
American Foundry & Furnace Co....823
American Gas Furnace Co. 144, 5; 218, 19
American Gas Journal....311
American Gas Products Corp....525, 6
American Heater Corp....247
American Meter Co...327, 8, 9; 403, 4, 5
Griffin & Co., John J.
Helme & McIlhenny
Maryland Meter Works
McDonald & Co., D.
Metric Metal Works
Pacific Meter Works
Tufts Meter Works, Nathaniel
American Radiator Co....525, 6
American Rolling Mill Co....245
American Stove Co....506, 7, 8, 9, 10
Clark & Co. Div., Geo. M.
Dangler Stove Co. Div.
Direct Action Stove Co. Div.
New Process Stove Co. Div.
Quick Meal Stove Co. Div.
Reliable Stove Co. Div.
Amherst-Logan County Coal Corp....107
Andes Range & Furnace Co....115
Autogas Corp....149
Automatic Gas Steam Radiator Co...140
Bailey Meter Co....227
Baltimore Copper Mills....146
Barber Gas Bur. Co....237
Barber-Greene Co....5
Bartlett Hayward Co....517
Bartlett & Snow Co., C. O....126
Bauer & Black....108
Beckwith Co....424
Bernitz Furnace Appliance Co....229
Bingham & Taylor Corp....200
B-Line Boiler Co....338
Blodgett Co., G. S....607
Bowser Service Corp....223
Bristol Co....807
Bryan Steam Corp....514
Bryant Heater & Mfg. Co....413, 14
Bullard-Davis, Inc....11
Burroughs Adding Machine Co. ....23, 24, 25, 29, 30, 31
Buxton & Skinner Printing & Stationery Co. ....830
Canadian Gas Assoc....810
Carrier-Lyle Corp....629, 713
Central Foundry Co....7, 8
Chambers Mfg. Co....624, 5
Chaplin-Fulton Mfg. Co....203, 4
Chicago Bridge & Iron Works....202
Claus Mfg. Co....527
Cleveland Gas Meter Co....704
Cleveland Heater Co....411
Cleveland Trencher Co....324, 25
Clow & Sons, James B....314
Columbia Burner Co....142, 3
Columbus Heating & Ventilating Co....214, 15
Connelly Iron Sponge & Governor Co. ....201
Connersville Blower Co....605
Consumers Construction Co....10
Continental Stove Corp....243, 44
Coxhead Corp., R. C....824
Crane Co....728, 29; 804, 5; 832, 833
Cribben & Sexton Co....632, 3, 4, 5
Crown Stove Works....119
Cruse-Kemper Co....705
Cutler-Hammer, Inc....801, 2, 3
Dearborn Chemical Co....520
Detroit-Michigan Stove Co.
Garland Div....611, 12, 13
Jewel Div....609, 10
Dick Co., A. B....826, 27
Dresser Mfg. Co., S. R....701, 2, 3
Dun-Rite Clock Device Co....310
Duo-Tor Mfg. Co....211
Econoheat Co....745
Economy Governor Co....622
Electric Indicator Corp....400
Electrolux Refrigerator Sales, Inc. ....530, 31; 614, 15
Elliott Addressing Machine Co...828, 29
Ensign-Reynolds, Inc....606
Eriez Stove & Mfg. Co....710, 711
Estate Stove Co....427, 28; 511
Everhot Htr. Co....814
Favorite Stove & Range....843
Felt & Tarrant....825
Fisher Governor Co., Inc....620
Floyd-Wells Co....808
Fox Furnace Co....815
Foxboro Co., Inc....205, 6
Frigidaire Corp....837, 8, 9
Fuller & Warren Co....220, 1, 2
Gas & Electric Heater Co....723
Gas Machinery Co....402
Gas Purifying Materials Co....621
General Ceramics Co....118
General Coal Co....133
General Gas Light Co...732, 3, 4, 5, 6, 7
Gestetner-Duplicator Corp....26; 32
Giant Mfg. Co....132
Glenwood Range Co....512, 13
Groble Gas Regulator Co....731
Guardian Gas Appliance Co....234, 5, 6
Harper-Wyman Mfg. Co....627
Heating & Ventilating....141
Hill, Hubbell & Co....300
Hoffman Heater Co....321, 2, 3
Homestead Heater Co....111
Hones, Inc., Charles A....114
Hotstream Heater Co....232
Humphrey Co....333
Hurley Machine Co....242
Improved Equipment-Russell Engineering Corp. ....15
Independent Stove Co....125
Inertol Co....12
Intercolonial Gas Jrnl....810
International Business Machines 616; 700
Isbell-Porter Co....706
J. & G. Brass Co....720
Johns-Manville, Inc....630, 31
Johnson Gas Appliance Co....722
Judelson Dryer Corp....238, 39
Kelly, Inc., John G....316
Kernit Incinerator Co....308, 9
Kompak Co....836
Koppers Co....518
Lambert Meter Co....228
Lamneck Co., W. E....628
Lattimer Stevens Co....207
Lavino & Co., E. J....601
Linde Air Products Co....730
Lindemann & Hoverson Co., A. J. 715, 16
Littleford Bros....102
Lovekin Water Heater Co....639
Maehler Co., Paul....717, 18
Majestic Mfg. Co....117
McEverlast, Inc....100, 101
McWane Cast Iron Pipe Co....603
Mears-Kane-Ofeldt, Inc....415
Merco Nordstrom Valve Co....835
Mettler Co., Lee B....821, 22
Meyer Fur. Co....240
Milwaukee Gas Specialty Co....527
Minneapolis-Honeywell Regulator Co. ....429, 30
Minwool Insulating Co....135
Mohawk Asphalt Heater Co....623
Moore Brothers Co....313
Mueller Co....401
Mueller Furnace Co., L. J....738, 39, 40
Mulcare Engineering Co....707
National Equipment Corp....1
National Lead Co....727
National Tube Co....303, 4, 5, 6, 7
Natural Gas Magazine....6
Naylor Pipe Co....9
1900 Corp....116
Ohio Foundry & Mfg. Co....210
Partlow Corp....339
Patrol Valve Co....412
Peerless Heater Co....139
Peerless Mfg. Co....741, 42
Peninsular Stove Co....714
Pennsylvania Furnace & Iron Co. 216, 17

# Midland United Develops Gas Transmission

FURTHER development of the gas pipe line transmission system of subsidiaries of the Midland United Company in Indiana and Western Ohio is now underway.

Approximately 185 miles of new pipe lines are being laid which, when completed, will bring the total mileage up to 841 miles and will result in the further interconnection of a large number of cities served by subsidiaries in the Midland group as well as the extension of gas service to communities which do not have such service now.

The Midland United group of companies will thus be in position at any time to distribute manufactured gas or natural gas or a gas composed of a mixture of the two, without large additional expenditures for a pipe line transmission system.

The Midland United Company through its control of public utilities serving a large area in Indiana and western Ohio has directed a coordinated program of expansion among its subsidiaries. As a result a gas transmission system is being developed along the same general lines as the electric transmission systems of the subsidiaries. This program has made possible the closing down of small isolated gas plants where operating costs were high, and the inauguration of service over a wide territory from modern and more efficient centralized plants.

The Interstate Public Service Company is building a twenty-four mile pipe line from Bloomington to Bedford, a twenty-one mile line from Martinsville to Franklin and a forty-mile line from Franklin to Seymour by way of Columbus.

The Northern Indiana Public Service Company is constructing a thirty-eight mile pipe line from Logansport and a six-mile line from Fort Wayne to New Haven, which has not had gas service up to this time.

The three lines which Interstate is building are further steps in the development of an extensive interconnected system which that company began last year with the laying of a line between Martinsville and Bloomington.

With the completion of the Logansport-Lafayette line and the Fort Wayne-New Haven line, the Northern Indiana Public Service Company will own a gas transmission system with an aggregate length of 408 miles, of which the greater part is interconnected.

The most extensive unified system of the Northern Indiana Public Service Company is interconnected with the large gas distributing center at East Chicago. Among the communities interconnected with this system in northern Indiana are Hammond, Whiting, Valparaiso, Crown Point, Michigan City, Hobart, Chesterton, Porter, South Bend, Mishawaka, Elkhart, Goshen, Bremen, Nappanee, Plymouth, Rochester, and Niles, Michigan.

A pipe line also interconnects East Chicago with Logansport, Peru and Wabash. Completion of the line between Logansport and Lafayette will also interconnect Lafayette, Crawfordsville, Attica and Williamsport with the East Chicago gas distributing center.

The West Ohio Gas Company is building fifty-six miles of additional transmission lines, interconnecting Lima, Ohio, with Delphos, Ohio, on the west and with Columbus Grove, Ottawa, Leipsic, Bluffton and Cairo, all in Ohio, on the north.

## Industrial Gas Exhibit at Metal Show

THE Industrial Section of the A.G.A. has reserved space at the National Metal Exposition, Stevens Hotel, Chicago, the week of September 22.

This is a cooperative effort between the Association and the following furnace manufacturers:

American Gas Furnace Company, Eclipse Fuel Engineering Company, Gehnrich Oven Company, C. M. Kemp Manufacturing Company, Paul Maehler Company, Maxon Premix Burner Company, Alexander Milburn Company, Ryan Scully & Company, Selas Company, Surface Combustion Company, Young Brothers Company, a metallurgical Laboratory.

# Personal and Otherwise

**L. C. Farley,** a pipe line operator of many years experience, has been elected assistant secretary of the Southwestern Natural Gas Company, subsidiary of the Appalachian Gas Corporation.

**E. J. Menerey,** manager of the Peoples Gas Company of Glassboro, N. J., has been made president of that organization in connection with its new ownership by the Public Service Electric and Gas Company.

**A. B. Paterson,** vice-president and general manager of the New Orleans Public Service Inc., has been elected president to succeed H. B. Flowers, resigned.

**R. D. O'Neil** has been appointed engineering and sales representative of American Meters Company, with headquarters at Birmingham, Ala.

**M. J. Harper** has been named manager of the New York City office of the Pittsburgh Equitable Meter Company, succeeding Victor E. Arnold.

**Fred F. Doyle,** manager, natural gas division, Pacific Gas and Electric Company, San Francisco, Calif., has been assigned to the management of the Standard Pacific Line.

**Jesse R. Stetser,** sales representative of the Roberts & Mander Stove Company, has been transferred to New York City with headquarters at the Martinique Hotel. At the same time Leslie Newman was transferred from New England to Newark, N. J., and Herbert Collier was moved to Boston, Mass., to continue Mr. Newman's work.

**Joseph C. Fitts** has been elected secretary of the Heating and Piping Contractors National Association to succeed Henry B. Gombers, retired.

*C. H. Stevick*

**C. H. Stevick,** who has been connected with the Consolidated Gas Company for the past twenty-five years, has been apponted assistant to John Stillwell, vice-president in charge of industrial relations.

**E. C. Deal,** president of the Peoples Light and Power Corp., has been elected chairman of the board of the Oklahoma Natural Gas Corporaton to succeed Thomas R. Weymouth, recently retired.

**Victor Starzenski** has been appointed manager of gas sales by the New York Power and Light Corporation.

**Louis Stein,** formerly gas engineer for the Northern States Power Company of Minneapolis, Minn., has been made director of gas sales. Amos H. Abbott, assistant gas engineer, has been appointed to Mr. Stein's former position, and Robert L. Rundorff has been advanced to assistant gas engineer.

**Earl W. Hodges,** director of Public Relations for Henry L. Doherty & Company and Cities Service Company, has been elected president of the Lions International.

**N. Henry Gellert,** vice-president and general manager of the Atlantic Gas Company, Philadelphia, Pa., was elected president following the acquisition of that company by Albert E. Peirce and Company of Chicago, Ill., and the resignation of Francis M. Brooke.

**Edward H. Bauer** has been appointed consulting engineer of the gas division of the Emprezas Electricas Brasileiras, S. A., one of the American Foreign Powers Company's holdings operating throughout Brazil.

**A. E. Wishon** has been elected vice-president and assistant general manager of the Pacific Gas and Electric Company of San Francisco, Calif., and president of the San Joaquin Light and Power Corporation, with headquarters at Fresno.

**F. M. Banks,** manager of the San Joaquin Division of the Southern California Gas Company, has been appointed to fill the newly created position of superintendent of sales.

**Lee J. Robison** has been appointed public relations director of the Indian Territory Illuminating Oil Company.

# Natural Gas Department Nominating Committee Reports

The following members have been named by the Nominating Committee to serve as officers of the Natural Gas Department, American Gas Association, for the next Association year:

Chairman—H. C. Cooper, Chief Engineer, Hope Natural Gas Company, Pittsburgh, Pa.

Vice-Chairman—H. L. Montgomery, General Manager, Cities Service Gas Company, Bartlesville, Okla.

Members Managing Committee—2 Years: Frank L. Chase, vice-president, Lone Star Gas Company, Dallas, Texas; T. B. Gregory, chairman of the board, Manufacturers Light & Heat Co., Pittsburgh, Pa.; J. R. Munce, vice-president, Arkansas-Louisiana Pipe Line Company, Pittsburgh, Pa.; T. R. Weymouth, chairman of the board of directors, Oklahoma Natural Gas Corporation, Tulsa, Okla.; Edgar G. Hill, vice-president, Southern Natural Gas Corporation, Birmingham, Ala.; H. L. Dickerson, vice-president, Houston Gulf Gas Co., Houston, Texas.

Member Managing Committee—One year (Unexpired Term of Mr. Montgomery)—B. C. Adams, vice-president, Gas Service Co., Kansas City, Mo.

Members of the Nominating Committee follow: N. C. McGowen, chairman; J. D. Creveling and A. W. Leonard.

## Appliance Developments To Be Published

**FOR the purpose of making a service available to A. G. A. manufacturer company members and in recognition of the numerous requests for it, The A. G. A. Monthly, beginning with the November issue, plans to publish in a section of manufacturers news, items of interest to the gas industry.**

**Announcements concerning manufacturers personnel, plant extensions, special services, new products, improvements, catalogue publications, etc., will be accepted and published.**

**It is not intended that this department of The Monthly be used for advertising any product, the proper media for which are the current trade journals and The Monthly accordingly reserves all editorial privileges over the material submitted for publication.**

**Member companies who wish to take advantage of this service must have the information to be published in the hands of the Editor, A. G. A. Monthly, on or before the 10th of each month preceding the month of publication.**

## Middlesex Towns Get Boston Gas

ROBERT E. GOODWIN, Chairman of the Concord Selectmen, turned a valve wheel in Boston, Mass., July 31, and a few minutes later his neighbors, twenty miles away, lighted the first gas jets that have burned in middle Middlesex.

The same turn of the wheel sent gas flowing through new mains to Lincoln, Sudbury, Weston, Wayland, Cochituate and West Concord.

It marked the farthest flow of gas from the generating plant of the Boston Consolidated Gas Company and opened an extensive countryside to gas service. More than 1100 customers in these Middlesex towns were already connected with the gas company and waiting to cook their first dinners by gas. One hundred miles of gas pipe has been laid in the last three months.

While the gas was being turned on to Concord and neighboring towns, the Public Utilities Commission was approving a petition of the gas company to extend its system farther to serve Ayer, Groton, Acton, Littleton and Bedford. By November gas will be available to householders in these communities, to a distance of 40 miles from the generating station.

## Salt Lake City Cuts Smoke Nuisance

ONE of the most enlightened smoke abatement campaigns that has been waged in this country is that conducted for the past several years in Salt Lake City, Utah, according to the United States Bureau of Mines, Department of Commerce. The campaign was inaugurated by the municipal authorities in cooperation with the Bureau of Mines and the University of Utah in 1919, and the result has been to reduce at least 90 per cent of the smoke from large industrial and heating plants.

## Alexander Forward to Speak Before Commissioners

ALEXANDER FORWARD, managing director of the American Gas Association, has accepted an invitation to address the National Association of Railroad and Utilities Commissioners during their annual convention in Charleston, S. C., November 12-15.

Mr. Forward will speak on "Developments in the Natural Gas Field."

## A. G. A. Convention Opens October 13 at Atlantic City

(Continued from page 386)

Paper, "Natural Gas Replaces Oil Gas in Pacific Gas and Electric Co.," W. S. Yard, Pacific Gas and Electric Co., 245 Market St., San Francisco, Calif.

*Wednesday Afternoon, October 15*

3:00 o'clock

MEETING ROOM A
MUNICIPAL AUDITORIUM

Report of Committee on Dehydration of Gas, J. E. Spindle, chairman, Grand Rapids Gas Light Co., Grand Rapids, Mich.

Paper, "Economics of Long Distance Transmission of Gas." (Author to be announced.)

Paper, "The Physics of Carbonization." Dr. S. P. Burke, Morgantown, W. Va., Dr. Theo. S. W. Schumann, Mr. Frank V. Parry, Linden, N. J.

*Thursday Afternoon, October 16*

3:00 o'clock

MEETING ROOM A
MUNICIPAL AUDITORIUM

Paper, "Humidity Effects in the Iron Oxide Process for the Removal of Hydrogen Sulphide from Gas," Prof. W. J. Huff and C. Gordon Milbourne, Johns Hopkins University, Baltimore, Md.

Paper, "Use of Bunker 'C' Oil in Water Gas Practice," P. T. Dashiell, Philadelphia Gas Works, 1401 Arch St., Philadelphia, Pa.

Brief Summary of Reports of: Carbonization Committee, Fred Denig; Water Gas Committee, I. K. Peck; Distribution Committee, J. H. Braine; Chemical Committee, S. P. Burke.

## Home Service Course at Columbia University

(Continued from page 415)

Miss Julia Schafer, Brooklyn Union Gas Co., 176 Remsen Street, Brooklyn, N. Y.

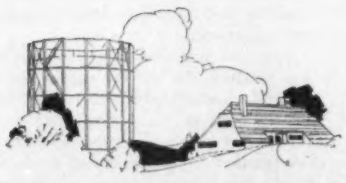
Miss Louise Schloss, Consolidated Gas Co., 4 Irving Place, New York City.

Miss Gretchen Snyder, Calhoun School, West 92nd Street, New York City.

Miss Elsa Steinberger, Brooklyn Union Gas Co., Brooklyn, N. Y.

Miss Mary M. Stewart, High School, Anniston, Alabama.

Miss Pauline E. Terwilliger, Consolidated Gas Company, New York City.



Miss May C. Turner, State Teachers College, Buffalo, New York.

Miss Jane T. Wagner, Consolidated Gas Company, 4 Irving Place, New York City.

Miss Dorothy E. Weeks, State Normal School, Framingham Center, Massachusetts.

Miss Nellie M. Wight, Junior High School No. 164, New York City.

Miss Isabella C. Wilson, Marshall College, Huntington, West Virginia.

## Says Natural Gas Finds Best Market Among Industries

(Continued from page 393)

demand all year. The fly in the ointment seems to be that the boiler plant cannot be won on as high a rate as the industrial concern because the gas must be sold in competition with cheap steam coal available to the power plant.

"Many apartment house and hotel boilers will use natural gas even when it is higher priced than coal because if the plant is small, automatic devices permit one man to operate the plant, eliminating firemen. The natural gas industry has an eye on this market."

## Employee-Customer Relations Course Ready

(Continued from page 401)

of New York, and a former president of the Association, whose company already has enrolled more than 1,000 employees in this new course to start October 1, 1930. Colonel Fogg says: "This program comes at a most opportune time in connection with a related activity recently inaugurated for the commercial, sales and customers service departments of the Consolidated Gas Company and its affiliated gas companies. As a result, we are glad of the opportunity to enroll for the course a major portion of our contact employees, to the extent of approximately one thousand.

"There is no question that the gas industry, as a whole, would benefit from such a course, and I sincerely hope that the program of your Educational Committee will receive the support and participation on the part of all member companies which it properly deserves."

Complete information about this course is now available and can be secured by writing to K. R. Boyes, secretary, American Gas Association, 420 Lexington Ave., New York, N. Y.

# Monthly Summary of Gas Company Statistics

## FOR MONTH OF JUNE, 1930

Issued August, 1930, by the Statistical Department of the American Gas Association
420 Lexington Avenue, New York, N. Y.

PAUL RYAN, Statistician

### COMPARATIVE STATISTICS OF 148 MANUFACTURED GAS COMPANIES FOR MONTH OF JUNE

| | Month of June | | | Six Months Ending June 30th | | |
|---|---|---|---|---|---|---|
| | 1930 | 1929 | Per cent Increase | 1930 | 1929 | Per cent Increase |
| Customers | 8,818,685 | 8,725,453 | 1.1 | | See June | |
| Gas Sales (MCF) | 29,079,613 | 29,116,667 | — 0.1 | 187,882,663 | 184,188,509 | 2.0 |
| Revenue (Dollars) | 31,367,000 | 31,227,199 | 0.4 | 197,565,095 | 194,866,694 | 1.4 |
| *Gas Produced and Purchased (MCF)* | | | | | | |
| *Gas Produced* | | | | | | |
| (a) Water Gas | 12,493,877 | 13,209,661 | — 5.4 | 97,070,398 | 102,184,721 | — 5.0 |
| (b) Retort Coal Gas | 2,407,351 | 2,527,367 | — 4.7 | 15,503,831 | 15,862,499 | — 2.3 |
| (c) Oil Gas | 519,074 | 504,973 | 2.8 | 4,217,397 | 4,373,743 | — 3.6 |
| (d) Coke Oven Gas | 3,949,922 | 3,740,089 | 5.6 | 23,898,765 | 22,539,854 | 6.0 |
| (e) Reformed Oil Still Gas | 130,921 | —— | — | 871,362 | —— | — |
| (f) Total Gas Produced | 19,501,145 | 19,982,090 | — 2.4 | 141,561,753 | 144,960,817 | — 2.3 |
| *Gas Purchased* | | | | | | |
| (a) Coke Oven Gas | 8,901,071 | 8,795,596 | 1.2 | 56,903,035 | 51,309,759 | 10.9 |
| (b) Oil Still and Natural Gas | 169,716 | 208,378 | —18.5 | 1,277,884 | 1,545,930 | —17.3 |
| (c) Total Gas Purchased | 9,070,787 | 9,003,974 | 0.7 | 58,180,919 | 52,855,689 | 10.1 |
| Total Gas Produced and Purchased | 28,571,932 | 28,986,064 | — 1.4 | 199,742,672 | 197,816,506 | 1.0 |

### COMPARATIVE STATISTICS OF 85 NATURAL GAS COMPANIES FOR MONTH OF JUNE

| | | | | | | |
|---|---|---|---|---|---|---|
| *Customers* | | | | | | |
| Domestic (Including House Heating) | 3,509,358 | 3,439,259 | 2.0 | | | |
| Commercial | 168,183 | 154,371 | 8.9 | | | |
| Industrial | 10,915 | 22,194 | — 50.1 | | | |
| Main Line | 2,491 | 1,176 | 111.8 | | See June | |
| Miscellaneous | 1,092 | 1,308 | — | | | |
| Total | 3,692,039 | 3,618,308 | 2.0 | | | |
| *Gas Sales (MCF)* | | | | | | |
| Domestic (Including House Heating) | 13,377,831 | 14,350,045 | — 6.8 | 134,012,930 | 137,236,872 | — 2.3 |
| Commercial | 1,665,147 | 1,768,860 | — 5.9 | 17,818,819 | 17,295,337 | 3.0 |
| Industrial | 10,400,263 | 12,338,236 | —15.7 | 66,992,553 | 73,703,169 | — 9.1 |
| Main Line | 1,900,450 | 2,167,229 | —12.3 | 11,355,943 | 13,349,498 | —14.9 |
| Miscellaneous | 82,030 | 97,104 | — | 1,098,556 | 1,407,745 | — |
| Total | 27,425,721 | 30,721,474 | —10.7 | 231,278,801 | 242,992,621 | — 4.8 |
| *Revenue (Dollars)* | | | | | | |
| Domestic (Including House Heating) | 9,792,929 | 10,212,454 | — 4.1 | 89,580,375 | 91,163,088 | — 1.7 |
| Commercial | 994,461 | 1,056,380 | — 5.9 | 9,837,858 | 9,518,366 | 3.3 |
| Industrial | 3,024,614 | 3,677,281 | —17.7 | 19,924,181 | 22,417,127 | —11.1 |
| Main Line | 265,211 | 276,119 | — 4.0 | 1,647,082 | 1,839,233 | —10.4 |
| Miscellaneous | 30,388 | 37,066 | — | 497,213 | 617,413 | — |
| Total | 14,107,603 | 15,259,300 | — 7.5 | 121,486,709 | 125,555,227 | — 3.2 |
| *Gas Produced and Purchased (MCF)* | | | | | | |
| Natural Gas Produced | 9,559,149 | 10,805,224 | —11.5 | 84,672,662 | 89,713,267 | — 5.6 |
| Natural Gas Purchased | 30,213,294 | 30,552,502 | — 1.1 | 252,256,690 | 250,355,006 | 0.8 |
| Natural Gas Produced and Purchased | 39,772,443 | 41,357,726 | — 3.8 | 336,929,352 | 340,068,273 | — 0.9 |
| Manufactured Gas Produced and Purchased | 1,614,480 | 2,953,079 | —45.3 | 13,860,162 | 23,482,251 | —41.0 |
| Total Gas Produced and Purchased | 41,386,516 | 44,310,805 | — 6.6 | 350,789,514 | 363,550,524 | — 3.5 |
| Company Use and Sales to other Gas Companies | 12,183,339 | 12,511,798 | — 2.6 | 105,401,887 | 107,041,695 | — 1.5 |
| Net Available for Public Distribution | 29,203,584 | 31,799,007 | — 8.2 | 245,387,627 | 256,508,829 | — 4.3 |

MIXED trends characterized the gas industry during the first six months of the current year. Reports received by the Statistical Department of the American Gas Association from companies representing ninety per cent of the manufactured gas industry indicate an increase of two per cent in manufactured gas sales and 1.4 per cent in reveune in the first half year as compared with the corresponding period of 1929, while reports from companies representing seventy per cent of the natural gas utility industry show a decline of 4.8 per cent in natural gas sales and a drop of 3.2 per cent in revenue for the same period.

Depressed conditions in industry and general business have retarded the rate of growth of the gas utility industry. This is clearly shown by comparing the growth registered in previous years. For the year 1929 manufactured gas sales were eight per cent above 1928, while natural gas production showed an unusually large increase of approximately twenty per cent.

In both manufactured and natural gas divisions of the industry substantial declines were registered in industrial-commercial sales. However, manufactured gas companies offset the decline in this class of business by substantial increases in house heating sales.

The relatively "depression proof" characteristic of the gas industry is indicated by operating results during the first six months of the present year. While manufactured gas sales showed an increase of two per cent and natural gas sales showed a decrease of less than five per cent, bituminous coal production decreased nine per cent, coke production dropped ten per cent, crude petroleum output decreased five per cent, pig iron production decreased sixteen per cent, steel ingot production twenty-one per cent, automobile production thirty-two per cent and freight car loadings nine per cent. Electric power production showed practically the same gain as manufactured gas, namely, 1.7 per cent.

During the first half year substantial progress was shown by gas companies in New England, the West North Central States, and the South Central and Mountain States. In New England, despite a drop of 7.7 per cent in industrial-commercial sales, total sales increased 4.6 per cent due to an increase in domestic sales and a 37.9 per cent gain in house heating sales.

In Michigan, where gas sales are considerably affected by the rate of activity in the automobile industry, sales for the first six months registered a decline of 2.3 per cent due to a decrease of 9.3 per cent in industrial-commercial sales, which offset a 21.9 per cent increase in house heating sales.

Both manufactured and natural gas divisions showed very slight improvement in June as compared with May.

## GROUP A—NEW ENGLAND STATES

*(Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont.)*

(Data reported by 35 companies whose sales constitute 80% of the total sales of manufactured gas in the New England States.)

| | *Month of June* | | | *Six Months Ending June 30th* | | |
|---|---|---|---|---|---|---|
| *Customers* | *1930* | *1929* | *Per cent Increase* | *1930* | *1929* | *Per cent Increase* |
| Domestic | 1,029,069 | 1,022,551 | 0.6 | | | |
| House Heating | 5,588 | 4,174 | 33.9 | | | |
| Industrial and Commercial | 35,551 | 37,113 | — 4.2 | | | |
| Miscellaneous | 386 | 229 | — | | | |
| Total (34 companies which segregate) | 1,070,594 | 1,064,067 | 0.6 | | | |
| Grand Total (35 companies) | 1,104,412 | 1,097,629 | 0.6 | | | |
| *Gas Sales (MCF)* | | | | | | |
| Domestic | 2,330,923 | 2,264,839 | 2.9 | 13,026,944 | 12,506,910 | 4.2 |
| House Heating | 76,534 | 42,537 | 79.9 | 2,017,874 | 1,463,320 | 37.9 |
| Industrial and Commercial | 495,368 | 545,788 | — 9.2 | 3,233,471 | 3,503,922 | — 7.7 |
| Miscellaneous | 18,439 | 18,445 | — | 154,743 | 154,852 | — |
| Total (34 companies which segregate) | 2,921,264 | 2,871,609 | 1.7 | 18,433,032 | 17,629,004 | 4.6 |
| Grand Total (35 companies) | 3,010,238 | 2,954,625 | 1.9 | 18,987,919 | 18,148,475 | 4.6 |
| *Revenue (Dollars)* | | | | | | |
| Domestic | 3,019,055 | 2,951,350 | 2.3 | 16,897,021 | 16,277,305 | 3.8 |
| House Heating | 66,491 | 34,288 | 93.9 | 1,638,837 | 1,177,236 | 39.2 |
| Industrial and Commercial | 474,349 | 549,057 | —13.6 | 3,067,637 | 3,544,889 | —13.5 |
| Miscellaneous | 14,847 | 17,432 | — | 104,268 | 122,457 | — |
| Total (34 companies which segregate) | 3,574,742 | 3,552,127 | 0.6 | 21,707,763 | 21,121,887 | 2.8 |
| Grand Total (35 companies) | 3,675,281 | 3,649,260 | 0.7 | 22,316,547 | 21,706,040 | 2.8 |
| *Gas Produced and Purchased (MCF)* | | | | | | |
| *Gas Produced* | | | | | | |
| (a) Water Gas | 1,285,620 | 1,222,569 | 5.2 | 8,987,159 | 8,661,688 | 3.8 |
| (b) Retort Coal Gas | 634,937 | 695,648 | — 8.7 | 4,271,127 | 4,188,322 | 2.0 |
| (c) Oil Gas | —— | —— | — | 438 | —— | — |
| (d) Coke Oven Gas | 347,150 | 309,953 | 12.0 | 2,185,215 | 1,786,797 | 22.3 |
| (e) Total Gas Produced | 2,267,707 | 2,228,170 | 1.8 | 15,443,939 | 14,636,807 | 5.5 |
| Coke Oven Gas Purchased | 833,307 | 829,456 | 0.5 | 5,255,809 | 5,027,599 | 4.5 |
| Total Gas Produced and Purchased | 3,101,014 | 3,057,626 | 1.4 | 20,699,748 | 19,664,406 | 5.3 |

NOTE: Of the thirty-five companies reporting, thirty-four segregate customers, sales and revenue monthly, and one company reports only totals. The data shown above for domestic, house heating, industrial-commercial classifications are based only on the reports of the thirty-four companies which segregate returns.

# Associations Affiliated with A. G. A.

**Canadian Gas Association**
Pres.—A. T. Leavitt, Hamilton By-Product Coke Ovens, Ltd., Hamilton, Ont.
Sec.-Tr.—G. W. Allen, 21 Astley Avenue, Toronto.

**Colorado Utilities Association**
Pres.—H. S. Robertson, Denver Tramway Corp., Denver, Colo.
Sec.-Tr.—O. A. Weller, Public Service Co. of Colo., Denver, Colo.

**Empire State Gas and Electric Association**
Pres.—William J. Welsh, New York & Richmond Gas Co., Staten Island, New York.
Chairman Gas Section—M. F. Clement, Rockland Light & Power Co., Middletown, Ind.
Sec.—C. H. B. Chapin, Grand Central Terminal, New York, N. Y.

**Illinois Gas Association**
Pres.—H. T. East, Public Service Company of Northern Illinois, Chicago, Ill.
Sec.-Tr.—George Schwaner, 305 Illinois Mine Workers Bldg., Springfield, Ill.

**Indiana Gas Association**
Pres.—C. L. Kirk, Citizens Gas Co., Indianapolis, Ind.
Sec.-Tr.—F. W. Budd, Central Indiana Gas Co., Muncie, Ind.

**Michigan Gas Association**
Pres.—Prof. A. H. White, University of Michigan, Ann Arbor, Mich.
Sec.-Tr.—A. G. Schroeder, Grand Rapids Gas Light Co., Grand Rapids, Mich.

**Mid-West Gas Association**
Pres.—J. M. Drabelle, Iowa Ry. & Lt. Corp., Cedar Rapids, Iowa.
Sec.-Tr.—Roy B. Searing, Sioux City Gas & Electric Co., Sioux City, Iowa.

**Missouri Association of Public Utilities**
Pres.—H. M. Patton, Union Electric Light & Power Co., St. Louis, Mo.
Sec.-Tr.—F. D. Beardslee, 315 N. 12th St., St. Louis, Mo.
Asst. Sec.—Jesse Blythe, 103 West High St., Jefferson City, Mo.

**New England Gas Association**
Pres.—H. Vittinghoff, Stone & Webster, Inc., Boston, Mass.
Exec. Sec.—C. D. Williams, 41 Mount Vernon St., Boston, Mass.
Chairman Operating Div.—A. S. Hall, Springfield Gas Light Co., Springfield, Mass.
Secretary Operating Division—Paul Buchanan, Hartford Gas Co., Hartford, Conn.
Chairman Sales Div.—J. H. Sumner, Cambridge Gas Light Co., Cambridge, Mass.
Sec.-Tr. Sales Div.—A. M. Slattery, Hoffman Heater Co., Boston, Mass.
Chairman Industrial Div.—L. E. Wagner, Providence Gas Co., Providence, R. I.
Sec.-Tr. Industrial Div.—Charles S. Hilton, Pawtucket Gas Co., Pawtucket, R. I.
Chairman Acctg. Div.—Burton Smart, Portland Gas Light Co., Portland, Me.
Sec.-Treas. Acctg. Div.—Otto Price, Boston Consolidated Gas Co., Boston, Mass.
Chairman Manufacturer Div.—J. D. Taylor, Walker & Pratt Mfg. Co., Boston, Mass.
Sec.-Treas. Manufacturers Div.—J. H. McPherson, 250 Stuart St., Boston, Mass.

**New Jersey Gas Association**
Pres.—Chester Grey, Atlantic City Gas Company, Atlantic City, N. J.
Sec.-Tr.—H. E. Cliff, Public Service Electric & Gas Co., Newark, N. J.

**Ohio Gas and Oil Men's Association**
Pres.—L. K. Langdon, Union Gas & Electric Co., Cincinnati, Ohio.
Sec.-Tr.—Wm. H. Thompson, 811 First National Bank Bldg., Columbus, Ohio.

**Oklahoma Utilities Association**
Pres.—T. H. Steffens, Sand Springs Railway Co., Sand Springs, Okla.
Mgr.—E. F. McKay, 1020 Petroleum Bldg., Oklahoma City, Okla.

**Pacific Coast Gas Association**
Pres.—F. H. Bivens, Southern Counties Gas Co., Los Angeles, Calif.
Mang. Dir.—Clifford Johnstone, 447 Sutter St., San Francisco, Calif.

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Sec.-Tr.—Frank W. Lesley, Pennsylvania Gas & Electric Co., York, Pa.

**Pennsylvania Natural Gas Men's Association**
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Sec.-Tr.—G. H. Schlatter, Birmingham Gas Co., Birmingham, Ala.

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Chairman Gas Section—Frank L. Chase, Lone Star Gas Co., Dallas, Texas.
Sec.—E. N. Willis, c/o University Club, Dallas, Texas.

**The Public Utilities Association of Virginia**
Pres.—C. B. Short, Roanoke Railway and Electric Co., Roanoke, Va.
Sec.—C. O. Robertson, P. O. Box 537, Roanoke, Va.

**Wisconsin Utilities Association**
Pres.—M. H. Frank, Wisconsin Power & Light Co., Madison, Wis.
Exec. Sec.—J. N. Cadby, 105 Wells St., Milwaukee, Wis.

Twelfth Annual Convention of the American Gas Association
Atlantic City, N. J. - - - October 13-17, 1930

# Employment Bureau

## SERVICES REQUIRED

Experienced industrial gas salesmen for large operating gas company. **0163.**

Salesmen to sell gas to industries. Experienced men preferred. **0164.**

Sales engineers to handle line of motor operated valves, low temperature pressure and combustion safety controllers. Men 25 to 35 years with college training preferred. Familiarity with process control field advantageous. **0167.**

Industrial gas sales engineers by Public Utility in Middle West. College graduates in engineering courses preferred. Please state age, experience, education, and salary expected. **0169.**

One, two or three salesmen familiar with househeating; would like to interview those who have held similar positions with gas companies. Salary according to experience and ability. **0171.**

Experienced gas appliance salesmen wanted by Holding Company for service in small gas plants. Only men who can sell and are ambitious are desired. Salary and commission. Write full qualifications. **0172.**

Young engineer to supervise servicing of heating boilers, gas refrigerators, water heaters and similar appliances; a technical man who can learn the practical end or who is already familiar with it, and who also will understand the theory of the gas refrigerator, etc. **0173.**

Rate specialist with accounting, legal and engineering knowledge. Experience and good personality essential; position requires traveling; salary commensurate with qualifications. Include references with application. **0174.**

Experienced house-heating sales engineer. State age and qualifications. Location: Kentucky and Tennessee. New natural gas territory. State salary and commission desired. **0175.**

Experienced gas appliance salesman. State age and qualifications. Location: Kentucky and Tennessee. New Natural gas territory. State salary and commission desired. **0176.**

Manager for small gas property in the Southeast owned by holding company. State experience, references, and salary desired. **0177.**

High grade man with adequate education and experience to take charge of relatively large property; position is chiefly managerial but requires good engineering background. **0178.**

Rate engineer for company in middle West; knowledge of rate making and rate structure necessary and engineering and accounting experience desirable. Salary about $4,000. **0179.**

Practical experienced industrial gas equipment salesman for established line of burners, and special equipment. Headquarters, New York City. Write fully as to experience, etc. **0180.**

Immediate opening for industrial sales engineer with from three to five years experience. Twenty-seven to thirty-two years old preferred. Must have ability to analyze industrial requirements and close sales. Utility sells gas only in largest industrial center in the South. Give details of education, experience and compensation expected in first letter. **0181.**

General Manager or Operating Vice-President for well-established Natural Gas Company wholesaling its product in Appalachian field. Must have had actual experience, have good personality, be capable executive, good trader with experience in the selection and development of acreage, active, energetic, loyal, reliable, with unblemished record for integrity. Address, giving full record of business, personal history and salary requirements with references. Replies will be regarded as confidential. **0182.**

Experienced, honest-to-goodness, hard-hitting gas range salesmen for Metropolitan New York, New Jersey and the New England Territory. **0183.**

## SERVICES OFFERED

Chemical engineer with eight years' experience with large public utilities on gas plant operation, and design of gas and power plant equipment. Experienced in handling men. Desires place as assistant to executive, or industrial sales. Would consider service and sales with equipment manufacturer. Married and now employed. Can leave on short notice. **338.**

### ARE YOU READING THESE ADVERTISEMENTS?

Mr. Employer and Mr. Employee, do you read each other's advertisements? You are both in an industry where the personnel turnover is somewhat infrequent, nevertheless there is a constant and steady change; many men are in demand.

The A. G. A. maintains a confidential service for securing qualified executives, engineers, operators, and salesmen. A privilege of membership is the insertion (without charge) of an advertisement by those seeking such positions.

Mail copy for receipt by the seventh of the month to ensure insertion in the next issue.

*Typewrite letters and qualification record if possible.*

A young executive with several years' experience in rates, sales promotion, advertising and public relations work is now available. **339.**

Engineer, M.S. degree, 10 years' experience in coal processing and allied problems. Particular experience in technical and economic phases of low-temperature carbonization and complete gasification. **340.**

Gas Engineer—college education, with nine years' experience in transmission and distribution of manufactured and natural gas. **341.**

Gas sales engineer of broad experience in industrial and househeating fields. Age 29, married. Capable of developing new field, conducting surveys, and designing equipment for special heating processes; familiar with domestic appliances. Desires position as manager of department or assistant to executive. **342.**

Meter shop superintendent with thorough knowledge of all types of meters; can produce results without disorganizing other personnel and offers best of references. **344.**

Engineer—technical graduate with twelve years' experience as cadet engineer, plant foreman, manager and engineer desires new connection—40 years of age, married. **345.**

Successful industrial engineer of several years broad experience; also technically trained in production and distribution; college graduate. **346.**

New Business or Merchandise Manager, [illegible] years of age, desires connection with a [illegible] or combination utility. Ten years of [illegible] diversified experience in utility commercial efforts covering general merchandise sales promotion, advertising and publicity, commercial accounting methods, new business promotion, etc. **349.**

Eastern Sales Manager or Sales Representative of gas appliances of merit and reasonable demand. Due to many years in the business I have a large circle of acquaintances who would assist me in forming contacts. **350.**

Engineer thoroughly trained in construction, appraisal, depreciation, gasoline absorption and research studies, desires connection where advancement will be earned by productive efforts. Twelve years production service and experience. **351.**

Young lady desires change; experienced secretarial worker in public utility field. Familiar with gas office and show room routine and cashier's duties. Excellent references. **352.**

Practical distribution and complaint man [illegible] experienced in the installation and servicing of domestic, commercial, and industrial equipment. Would consider foreign service, speaks German. **353.**

Industrial gas engineer now with company operating in several cities, desires change; competitive fuels experience. **354.**

Accountant, 28, college education. Four years experience in keeping general office books for companies engaged in pipe-line construction, and the transmission and distribution of natural gas. Can furnish best of references. Employed at present. Prefers West or Middle West location. **355.**

Engineer, college education, 34 years of age, married, eleven years experience in building and plant construction, distribution system design and operation of gas plants, rate study experience, also some industrial gas sales work, desires position as manager in medium size property or group of properties or assistant manager in larger property. Middle West location preferred. **356.**

Fuel Engineer, (M.S.) eight years sales engineering experience with strong basic ground of diversified, extensive industrial research, able to promote and direct practical testing and development to extend and stabilize the use of natural and the various manufactured gases; familiar with production and distribution; good organizer with analytical ability, now employed, desires new connection. Excellent recommendation. Salary commensurate with qualification and experience. **357.**

Shop foreman, with over twenty years experience in the manufacture of gas, would like position with a small company. Any location. **358**

Now employed as general manager of two gas companies consisting of 5500 meters. Control of our companies has been obtained by party who is to personally supervise the operations of the three companies after September 30, 1930. My services will be available after that date. Have had twenty-five years experience in the gas business of an unusually diversified nature and am thoroughly capable of taking charge of a large gas utility property from both an executive and engineering standpoint. Will be glad to hear from any Company who can use my services to advantage. **359.**

Young Engineer, now employed in gas manufacturing, would like to get into Industrial Gas Field. Recent graduate. **360.**

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